

Applications for teacher training places down

by Judith Judd

Applications for teacher-training and diversified courses made through the Central Register and Clearing House are so far nearly 40 per cent down on last year.

Although next year's intake for teacher training places will be 12,000 compared with 20,000 this year, there are also expected to be at least 2,000 diversified places.

A drop in places of around 30 per cent could thus be expected. At the moment the drop in applications for non-graduate courses, including Diplomas and BA's is 37 per cent.

For postgraduate courses, the drop in applications is 16.54 per cent. Postgraduate numbers outside universities will go down from 6,400 to 5,000 next year. In the university department the numbers will remain at 5,000.

Last year's final figures showed that a 33 per cent reduction in the number of places available was matched by only a 23 per cent reduction in the number of applicants.

Last year 1,300 joined courses other than certificate of education and BEd courses.

The Clearing House believes the final drop may not be as great as 37 per cent but that it is under-

standable there should be some decrease.

News of college closures and teacher unemployment is clearly putting some people off. Another factor is that most colleges are now demanding two A levels. People who might have applied to a college course are not now doing so.

Some officials in the National Association of Teachers in Further and Higher Education fear for the future of colleges which still have a substantial proportion of students on certificate of education courses which are likely to be hardest hit by higher entrance requirements.

They want the Government to set a date for the phasing out of the certificate as soon as possible. The Government has already suggested September 1979 as a possible date but a decision will be taken on this until the spring.

The colleges hope that the standard of applicants will maintain the improvement it showed last year.

The figures for admissions to the colleges will be announced next week. In spite of fears that they would be well down it is understood that they fall not far short of the 20,000 target.

NATFHE to choose new secretary

The National Association of Teachers in Further and Higher Education tomorrow chooses its new secretary. The 12 will complete the two-year MA, but no further applications will be accepted.

The university decided this week to abandon it—one of the few social work courses in East Anglia—to the Grants Committee's warning about cuts in spending next year. It could not afford to take on the extra staff needed for the course to meet standards laid down by the Central Council for Education and Training in Social Work.

Dr Martin Davies, the course director, said he feared the move could be the beginning of a gradual expulsion of social work training from the universities as money got tighter. His job and that of a colleague teaching the course would, however, be safe.

The British Association of Social Workers, of which Dr Davies is a member, drew attention to the report of a Department of Health and Social Security working party which recommended a massive expansion of professional training.

In a statement, the BASW said: "Following the revelation in the recent manpower report that only 40 per cent of field social workers are qualified, the DISS is pressing

UEA social work course to close after two months

by David Walker

A postgraduate social work training course at the University of East Anglia is to be closed barely two months after its first students arrived. The 12 will complete the two-year MA, but no further applications will be accepted.

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universities and polytechnics up their provision for social training, and yet the UEA is unable to make the money available."

In fact the East Anglia course was planned by means of a grant from the Social Sciences Research Council. When it lapsed the university supposed to take over the course which was well as a social work course.

Dr Davies said that still a degree of support for the course was subject to postgraduate support as well as the social work course.

He had spent 12 months arranging for the course in the local social work area, especially in Norfolk where it was hoped that the university would become a centre for research in the region in helping some of the local social work agencies.

A university spokesman said the decision to close the course was a possibility in the event of the resuscitation in the "large" UGC, the CETSU and the UEA were still going on.

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Upswing in industry's demand as more go into engineering Private sector brings cheer to technology graduates

by Sue Reid

Industry's demand for graduates, particularly in the private sector, was more buoyant this summer than in 1975, a leading graduate placement organization revealed this week. But it warned that 7 per cent of this year's graduates may be unemployed in December, compared to 5.5 per cent last year.

In its annual report the Central Services Unit for University and Polytechnic Careers and Appointments says that demand for certain technology graduates, especially mechanical, electrical and production engineers, is considerably higher than last December.

While paying tribute to private industry for keeping graduate employment stable in 1976 it warns that the situation in the public sector is grave: "Since nearly 60 per cent of graduate output is normally absorbed by some form of public authority the sharp and sudden fall in the capacity of local and central government to recruit has very serious implications."

"The non-scientist has in particular, felt the effects of the contraction in administrative and executive openings but even those with vocational training, such as teachers, architects, and librarians, have been hit by the public sector cuts."

It adds that there is still a shortage of well-qualified applicants for mathematics and physics teaching posts and for engineers.

Private industry and commerce held to stable targets throughout the year despite an economic climate which must, for many of them, have made such intakes an investment for the future rather than a satisfaction of immediate needs."

In January the unit predicted a 10 per cent drop in demand for graduates in 1976 compared to last year, a forecast it now says was accurate. Mr Brian Prior, director of the CSU, said this week that he expected a gradual demand in 1977 to be fairly buoyant although he warned that in the last month there had been a noticeable fall in recruitment.

He estimated that 11 per cent of 1976 graduates had not yet secured employment by the end of December. Last year 8.5 per cent were still seeking work six months after graduating.

He revealed that some public sector industries had cut recruitment by 50 per cent in 1976, compared to 1975, but in some areas demand was considerably up. Graduates were better placed than non-graduates. But the report warned of a serious lack of opportunities in the public sector.

opportunity for those leaving education tend to be moves from which the higher qualified derive no benefit."

The findings of a major survey of graduate teachers were also released this week. Conducted among 2,000 postgraduate certificate of education students who left universities and polytechnics this summer it shows that more than 90 per cent who were mobile—prepared to move from the area where trained—succeeded in finding jobs.

Sixteen per cent had failed to find posts by October, compared to just 8 per cent last year. But it points out that if "immobile" students are excluded the number without teaching jobs in October was slightly more than 8 per cent.

Only 40 per cent applying for primary school posts secured jobs, compared to 80 per cent of those who applied to secondary schools, other than middle schools and sixth form colleges. The survey report, prepared by Mr Geoffrey Prior-Wandsworth, of Sussex University's Occupational Advisory Service, Sussex University, on behalf of the standing Conference of University and Polytechnic Appointments Services, says that in middle schools, sixth form and further

education colleges were also hard to obtain.

It shows that only 3 per cent of mathematics failed to find teaching jobs and those hoping to teach French and chemistry were also successful. But graduates offering art and design or history had substantial difficulty in acquiring posts.

Nearly 90 per cent who had not found teaching jobs by October had started to look for employment in another field, compared to 77 per cent at the same time last year. Forty-five per cent had given up looking for teaching posts temporarily and 11 per cent permanently.

The careers services of 24 universities and 14 polytechnics in England, Wales and Northern Ireland cooperated in the survey.

Fourth annual report of the CSU Management Committee, August 1975 to July 1976. Published by the Central Services Unit for University and Polytechnic Appointments Services, Crawford House, Precinct Centre, Oxford Road, Manchester. Graduate Teaching Survey 1976. Prepared by Mr G. W. Prior-Wandsworth, of Sussex University's Occupational Advisory Service, Sussex University, on behalf of the standing Conference of University and Polytechnic Appointments Services.

Engineering applications up a 'striking' 17 per cent

by Annabel Ferriman

Admissions to engineering courses at universities and polytechnics have improved substantially again this year following the resurgence of interest last year.

Mrs Williams, Secretary of State for Education and Science, announced in the House of Commons last week that admissions were up eight per cent, double the average for all other subjects. Applications for this year were also up "a striking 17 per cent", she said.

The Committee of Directors of Polytechnics, moreover, announced that admissions to courses in engineering, science, mathematics and technology courses, enrolments reaching 40,000 compared to 36,000 in 1975.

Total admissions to polytechnics for full-time and sandwich courses were also up 11 per cent to 55,000, compared to 49,500 last year. The figures show an increasing growth rate in the polytechnics, the percentage increase for the years 1973, 1974 and 1975 being three, five, and eight respectively.

Polytechnic admission figures also show a faster rate of growth than at the universities. This year university admissions are expected to be around 76,000 compared to 73,339 last year, an increase of 3.6 per cent. The percentage increase for 1973, 1974 and 1975 respectively were 0.9, 5.3 and 5.9.

The total university population this year is likely to be 275,000 compared to 263,200 last year, while the total number on full-time and sandwich courses in the polytechnics is expected to be 113,000 compared to the 1975 total of 97,500.

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1977 start for overseas students cut

by Francis Gibb

The Government is planning to reduce the number of overseas students from the present 80,000 to between 60,000 and 65,000 as soon as is feasible, Mrs Williams, Secretary of State for Education and Science, has announced.

Introducing plans for increasing tuition fees last week, Mrs Williams said the proposed limitation of overseas students numbers, which had risen from 31,000 in 1967-68 to 80,000 this year, could not be fully achieved within one year without "severe disruption".

She would continue consultations to ensure that it began in 1977 and was completed as soon as possible thereafter.

In July, when announcing the original proposals for fee increases, Mr Mulvey, then Secretary of State, had declared the intention to stabilize the overseas student numbers at around 62,000.

The new fee proposals do not remove the differential between home and overseas students as recommended in July, although they make it narrower than at present. From 1977-78, the new fees, which apply to all 4,500,000 students in further and higher education, will be: home undergraduates £500 (£750); home postgraduates £750 (£750); overseas undergraduates £650 (£650); overseas postgraduates £850 (£750). Present fees for all home students are £182 a year and for all overseas students £416.

In further education, overseas students will pay £650 (£650) for advanced courses and £360 (£325) for non-advanced courses. Home students will pay £500 (£500).

Mr Gordon Oakes, minister of state overseeing higher education, said last week he did not think the new proposals would deter any more students from entering higher education than did those in July. They might even deter fewer. Recently he estimated that home postgraduates could fall by between 3,000 and 7,000 and overseas postgraduates by between 1,000 and 3,000.

During the debate on the Queen's speech, Mrs Williams said she was disappointed that the Government was not able to eliminate the differential between home and overseas students. It had, however, been reduced from £250 for undergraduates and £150 for postgraduates to £150, and it remained the Government's policy to work towards its abolition.

On the further education increases, Mrs Williams said last week continued on page 28.

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ACADEMIC DEVELOPMENTS

Poly 'first' plumbs depths of recent geological past

Demand from graduates has led to the joint establishment of an MSc in quaternary studies by the Polytechnic of North London's department of geography and the City of London Polytechnic's geography section. It is the first course of its kind dealing specifically with the quaternary, the most recent geological period, covering the last two million years.

The two year part-time course is to be launched in January and has only recently been approved by the Council for National Academic Awards. It will be the only master's course in the field of geography validated by the council.

It will aim to promote fuller understanding of the nature and implications of the events of the period. Students will attend two evening sessions a week for six terms and will also carry out a piece of work in the field of their choice to be submitted as a dissertation towards the end of the course.

Fieldwork will include two week-long residential programmes field during vacations, and occasional one or two-day field courses at weekends.

Prospective students should have either an honours degree in a subject related to the quaternary, for instance, in geography, geology, botany, zoology, archaeology or soil science, or relevant professional experience.

The course is to be offered in response to a long-standing demand from graduates working in south-east England. Although there are several part-time master's courses in geography, geology and biology, this is the first dealing specifically with the study of the quaternary.

The initial response from prospective students has been good and the intake next January will be limited to 15.

Disciplines unite to study urban ills

by Judith Judd

A new three-year course in urban studies which focuses several different disciplines on the problems of cities will be offered at Sheffield University from October 1977.

The course will be run by the faculty of architectural studies and leads to a BA honours degree.

The department sees its course as the result of a growing realization that the problems of urban life are interdependent and that a combination of skills and analytical approaches must be brought to bear on them if they are to be effectively understood.

Teachers will be drawn from many departments including geography, economics, politics, sociology, statistics, economic and social history, architecture, building science, town and regional planning, botany and civil and structural engineering.

Sheffield, as a large industrial area, is thought to be a suitable setting for such a degree. Project work will be an important part of the course and much of this is expected to take place in and around the city.

During the first year students will study the natural environment, the built environment and urban history. They will also be given a grounding in economics, sociology and statistics.

The second and third-year work will aim to develop an understanding of the city in an analytical framework which relates spatial form and structure to the social, economic and technological processes in a city. Students will also examine government and administration as they relate to policy-making in urban affairs.

The emphasis will be on providing the analytical tools to understand those problems and to form policies in the third year students will be encouraged to specialize in one or more public subjects for study in the department of urban studies, evaluating urban problems, the urban areas and government, urban administration.

The course is non-vocational, its designers see it as providing an excellent foundation for employment in central and local government administration, town planning, architecture, social housing management and urban development, industrial, social and community work.

Though in many cases the study or training will be useful before students can embark on a career, the aim is to give graduates a better basis for one of these careers.

London's first degree in nursing

by Sue Reid

Chelsea College is to launch a new combined BSc and state registered nursing course in September, 1977. The course, which has taken three years to develop, will have a tripartite core centring on the medical sciences, behavioural sciences and nursing studies.

Dr Jack Hayward, principal nursing officer (research) with the Department of Health and Social Security, has been appointed the college's first professor of nursing studies. He will be responsible for the development and running of the new course.

Already 160 students have applied for places on the new programme, although the first year intake is to be limited to 15. It will be one of the first degree courses in nursing in the country and the first to be launched at a college of London University.

The college has a strong tradition of advanced work in the basic medical sciences. For this reason the programme will be jointly based on the biological and the sociological sciences. These study areas will be taught by the existing college departments while the nursing studies component will be concentrated on St George's Hospital School of Nursing.

Chelsea already has a close relationship with St George's and its future plans include a joint development of a new campus in south London with the hospital's medical school. The College Nursing Council and the various schools of nursing have been involved in the planning of the course.

Similar courses are being run at Manchester and Edinburgh universities and at Newcastle, Leeds and South Bank polytechnics. For instance, but Professor Goldsmith told *The Times*: "Our course will be biologically and sociologically based, unlike many others which have concentrated on the social sciences."

Environmental technology for postgraduates at Imperial

by David Dickson

Following recent public debate on the potential environmental hazards of technological developments, Imperial College, London, is to introduce a one-year MSc postgraduate course in environmental technology from October 1977.

The course will draw upon the expertise in the college in the biological, physical and engineering sciences, and will consist of courses given by various departments, ensuring an interdisciplinary treatment.

A core course will be provided for all students during the autumn and spring terms, and will cover a number of subjects arranged to provide a progressively more complicated and sophisticated understanding of the human environment.

These will range from consideration of the hazards of the physical world and the organization of the natural environment, the impact of human activities, through to the use of technology in the allocation of resources and the management of the environment.

In the spring term each student will be able to select one of a range of options for further study, and the summer term will be devoted to a dissertation project stemming from one of the specialist options. The arrangements will mean that a student can study those environmental technology topics closest to his future professional needs.

Initially it is hoped 30 candidates will take the course, but it is planned to increase it to 50.

Government in context

Heriot-Watt University is to introduce a new course leading to a BA degree in government and modern history from October 1977. It will be offered by the department of economics and combines study in several different disciplines, principally political studies, the economics of government, modern history and law.

Government studies will concentrate on the application of economic analysis and decision-making techniques to problems of resource use in the public sector, including social administration. The work in history will include economic and social history, as well as political and constitutional history and law, particularly in relation to industrial societies in western Europe.

A course in the history of political ideas will provide both a foundation class and a bridge between the government and history streams of the degree.

Dr Alan Thompson, professor of economics at Heriot-Watt University, said: "This degree course will provide a challenging educational experience, especially for those students who wish to pursue a career in management in local, regional or national government services, or for those wishing to specialize in historical studies."

"The focus of the course will be the later stages of the course will be attractive to those wishing to use the course as a foundation for work in Europe."

The course may be taken over four years for the honours BA degree, or three years for the ordinary degree.

Curriculum development

for lecturers

University of Birmingham Teachers' College is to run a two-year day release course in curriculum development in further and higher education, starting in January, 1977. It has been approved by the Department of Education and Science and successful candidates will be awarded an advanced diploma of the University of Birmingham School of Education.

Students will normally be serving teachers in further and higher education who possess a degree or equivalent qualification. They are expected to have had experience of curriculum organisation or to show an ability to contribute significantly to the development of the curriculum.

As well as studying curriculum development in relation to different disciplines, the course members will study education management, the development of innovation, curriculum studies and case studies.

Students are also expected to present a dissertation on some aspect of tertiary education.

On the other hand

Open and shut

A telephone call by Sir Walter Perry, vice-chancellor of the Open University, narrowly averted an embarrassing public squabble about the university's attitude to the launching of this book, *Open University*, which tells of his struggles in setting up the OU.

Immediately before its publication Professor David Jones of Hull University resigned as external examiner of an OU honours course in politics over a letter to *The Times* from Professor Steven Rose expressing his views on the role of heredity and environment in determining intelligence.

Professor Jones said that as chairman of the course, he should not have entered this debate at a time when the students' examination papers on exactly this topic were being marked.

At the time the OU smoothed over the rift by saying that Professor Rose's opposition to the hereditary view of intelligence had been publicly known for several years before *The Times* letter. A spokesman claimed that the apparent coincidence of its publication at that time was not significant, especially because the examination had been set and marked by course examiners before the letter was written.

However, two hours after telling *The Times* of his resignation, Professor Jones mysteriously withdrew his notice. It now appears that Sir Walter himself made him change his mind. It was made clear to him that his first duty was to his students.

However, the view in the OU is that such a resignation would have been damaging to the university's academic credibility. Of course, would have been extremely unfortunate publicity on the day that Sir Walter's book was published.

Anyone for hurdoj?

Esperanto enthusiasts are making a concerted effort to spread their international language on university campuses.

Leaflets have reached students informing them of the importance of the tongue that says all things to all men. It tells them, for example, how during the last Olympic Games all athletes were given an Esperanto phrasebook for moments when the interpreter was in the bar. It contained useful sentences like: "Did you break the world record?" (Ĉu vi rompis rekordon?) or "I am in the long jump, marathon, hurdoj" or even the hospital with a rupture of the Aorta tendons.

One scheme by the Group Five Esperanto specialists is to encourage university radio stations to broadcast a 12 part 15 minute series of language programmes called *Jan Jan Mondo* full of phrases to blamish about the campus should any accident and another Esperanto speaker.

One advantage of this is that the student could then apply to go on specially arranged Esperanto skiing holidays, presumably to broaden his stock of useful phrases yet further ("I have broken my leg, Brian, and wish to leave this Alp").

Feeding the intellect

As poly parties go in these austere times it was one of the more glistening. Candles, linen napkins, fresh flowers, a nine-course meal with six different drinks.

On one side of me a colonel talked of how much he enjoyed going back to his old regiment "just like a family, you know," while on the other the polytechnic director banded mathematical formulae with the county council's chief executive. In between the young serving staff had more than enough

Poly's pride

The occasion was a recent dinner in the department of catering management at Oxford Polytechnic. Named after the illustrious gourmet ("Beasts feed; man eats; the man of intellect alone knows how to eat," he is reported to have said), the society is a mixture of local caterers, professional and academics.

Their purpose is not just to dine well, but to enable others (specifically those students who have found food the most boring subject in the HND course) to cook well for them. In return they pay £10 a meal (which is, of course, excellent value), wear a dinner jacket, exclude their wives or mistresses, and stand up at the end of the meal to comment on what they have eaten.

When even the menu runs to 12 pages (including detailed descriptions of the fare, room for notes, and a short biography of a notable gastronome — Benjamin Franklin in this case), the food has a duty to be excellent.

And indeed it was. A glass of madeira; hors d'oeuvre (smoked salmon, palm tree hearts, ...) with therry; consommé; a oiseau sans teta (escalope stuffed with forcemeat on a bed of chouxcroute in a small shell of green pepper) with a Kiesel of Alsace Hugel 1973; a glass of calvados; vol-au-vent with mushrooms from the Vosges mountains and Chateau Cos d'Estournel 1964 (St Estaphie 2me cru de course); fromage; soufflé glace (with champagne); demi-tasse mocha (with brandy); and fruitides. I am sure a photographer would have enjoyed it as well. If only I had been able to take one. But the organizers had made it clear that one of those traditional pictures with the tables groaning under the night's fare would not be on. It would spoil the food, they said.

The Evening Library will be the polytechnic's first specialist collection. "It will be our pride," said Mrs Pankhurst.



Annoying sheep: is it art?

Death by art

The cause of performance art was done no good at all this week by two final year students at Leeds Polytechnic whose "show" was stopped after only one minute by an angry student audience. As part of their degree in performance arts the two students staged a show in which a variety of consumer durables were smashed up prior to the attempted murder of assorted budgeters, goldfish and mice with a pie.

Now, readers of the *Daily Mail* have enough to worry about with inflation, riots on Any Questions, and Arabs buying up west London without reading of the gratuitous slaughter of household livestock.

It may well illustrate the appalling level of violence in our society, but it has also led to police investigations to get on with the explosion of one of the students involved, to an internal inquiry by the fine art department and to the widespread questioning of the validity of the performance art course.

The sad thing is that much performance art can probably help us to reevaluate our everyday world

Plan needed for overseas students



Bryan Davies

On the first day of the new session of Parliament, more than 150 backbench members signed a motion seeking an end to the discrimination in tuition fees between home and overseas students. The Secretary of State for Education announced the tuition fees for 1977-78 with the concept of discrimination maintained.

Parliamentary uproar did not follow. Mrs Williams, in a speech of 15 minutes, said that the government's policy was to reduce the tuition fees for overseas students to the level of home students. She said that the government was committed to reducing the tuition fees for overseas students to the level of home students. She said that the government was committed to reducing the tuition fees for overseas students to the level of home students.

Nevertheless there are members of all parties who remain concerned that the government's policy is to reduce the tuition fees for overseas students to the level of home students. They will have a very strong case to make. They will have a very strong case to make. They will have a very strong case to make.

The issue has been a thorny one since 1967 when different levels of fees for home and overseas students were first introduced. Within three years, however, the loss in student numbers occasioned by the fees rise had been recovered. Moreover, the numbers have increased sharply in recent years. At the further education level some ILEA colleges have considerably more than a third of their postgraduate students overseas. The overseas element has increased from a quarter in 1971 to approximately one-third at the present time. Education in Britain clearly represents an increasing attraction to overseas students.

No one would seek to deny the moral requirement upon Britain to contribute to the development of the international educational community; any more than deny the educational experience of British students by the presence of students from overseas.

Educational chauvinism is a contradiction in terms. Equally clearly, however, higher education in particular is a privilege. Socialists are all too well aware that despite the expansion in places in the last decade, higher education represents a transfer of resources from the ordinary taxpayer to children predominantly drawn from the middle class. Competition to enter many courses and many institutions is intense and it is difficult to argue that Britain has an overall spare capacity to absorb increasing numbers of overseas students.

The increase in these numbers occasions no surprise. These figures reflect the British economy—the falling value of the pound and the corresponding lower cost of living in Britain for visitors from many countries—give the same stimulus to education as it does to tourism. The great difference lies in the fact that the tourist contributes sub-

stantially to the country's earnings while the student's contribution is counterbalanced by subsidized education.

Academic liberals may seek to sustain the argument that this subsidized contribution reflects Britain's commitment to the needs of the world in the form of the overseas aid programme. Yet the proportion of students directly supported by the British Government is not much more than a tenth of the total number of overseas students in Britain. Nor has British expenditure in this field markedly increased in recent years.

The role of the Overseas Development Ministry, though valuable, has clearly not been the spur to increased overseas consumption of British educational resources, nor do the priorities of the aid programme at present make more than a marginal impact upon the situation.

Moreover, without subscribing to the extremist view that cultural imperialism infuses every educational generalization on the undesirable but intangible benefits for students from other World countries are difficult to accept. Where real benefits do occur they reflect clear priorities and careful planning which is more the function of a conscious aid programme.

As for advantages flowing in the reverse direction, a similar scepticism is justified. Those taking decisions in their own countries may be British trained and retain a measure of goodwill towards this country, but they buy according to price and delivery.

Education in general and particularly higher education is not therefore in a strong position to withstand considerable public pressure for more economic use of its resources. It is, however, not too late to lead to sacrifice of principle. The substantial rise in tuition fees and the maintenance of the differential between home and overseas students takes us further along the road towards the price mechanism defining the distribution of resources. That move must not be halted and an alternative strategy do indeed.

Once unleashed, the home economic principle is difficult to restrain. There is the danger that fees will play an increasing part in post-school education. The sufficiently rich from overseas will find them no barrier, the rest will be helped by the various groups which "official" British aid policy seeks to help, namely, those from the poorest countries and the poorest students from the more developed countries. Accrues resources are to be shared equitably then there is no alternative to quotas. The concept, of course, will immediately reduce some to paroxysms of anger as quotas in relationship to overseas students evoke all the emotion of recent Immigration Acts. Nevertheless quotas can be used for positive discrimination as well as negative.

Institutional figures for the universities with the UK or the public sector were price local authorities could be arrived at which reflected in the first instance Britain's commitment to the flow and interchange of students in the world. Such figures could be based on reciprocity in some developed world and an evaluation of appropriate proportions before the recent upsurge in overseas numbers. In addition, for the Third World, the educational community needs to be made more responsive to Britain's development effort. Universities and colleges could attract additional students in the future on the basis of closer liaison with ODM.

The stimulus to the creation of more relevant courses and the enhancement of the status of development problems in the educational community could bring significant advantages. In place of the indiscriminate subsidies at present, a strategy could be evolved of educational provision in relationship to development.

The depth of the crisis in our economy and our society at present is presenting us with harsh choices. No one can pretend that in education the halcyon days of substantial growth are not over for the foreseeable future. We would be guilty of an archaic-like response if with these chill winds blowing we did not recognize that the high level in growth of overseas students at this present time did not cause sharp questions to be asked of the educational system.

My argument is that unless education is to be increasingly exposed to the ravages of market mechanism, then a major effort at a planned strategy for overseas student numbers is essential. The author is Labour MP for Enfield North.

Dr Hoggart's healthy mongrel looks to a Birkbeckian future

Dr Richard Hoggart, warden of Goldsmiths' College, London, likes to describe his institution as "a mongrel". It offers teacher training, full-time and part-time degrees, evening and weekend classes in anything from jazz to bird-watching, postgraduate courses and an art school, a combination which Dr Hoggart believes is unique in this country.

But even if it is true, as one lecturer put it, that "We did not need to diversify, we were diversified already", the college is not immune from the problems facing teacher training.

Training teachers has been one of its great strengths. It has just merged with St Gabriel's and Rachel McMillan colleges of education and has been told that the total of initial teacher training places must be reduced from 1,500 to 800 by 1981. The education department, headed by Mr Vic Kelly, has reacted with a decision to concentrate on more higher degrees but redundancies will be difficult to avoid.

Mr Kelly points out several curiosities which the contraction of his department has thrown up. One is the fact that some of those doing initial degrees at Goldsmiths will not be able to continue there for their postgraduate teaching course. There will not be enough places for them to do so. Another is that at the same time as the college's popular and long standing postgraduate primary course is being run down, a new postgraduate primary course is just being started at London University's Institute of Education.

The attempt to diversify has already begun. A number of new joint degrees validated by London University through the Institute of Education, are being offered this year and it is hoped to offer more next. This year some students are doing a joint degree in education and religious studies, English and history, geography and German. So far they have not recruited well though this may be because the college felt it must be cautious about advertising courses which it was not certain would be validated.

Mr Richard Larr, the students' union president believes that diversification at Goldsmiths may have begun too late but others counter that it was right to sort out the



Dr Richard Hoggart.

college's BEd course before embarking on anything else.

Dr Hoggart believes that the starting point for diversification must be the college's strengths. Many of these lie in its existing London University degrees which have been running ever since the Goldsmiths' Company gave its institute to the university in 1904. The wisdom of this is already being proved. This year there are 94 people on the BSc Combined Studies course compared with 61 last. Numbers for the English BA have gone up from 30 to 41 and Psychology is also doing well. It is hoped that an art therapy course will replace some of the work now being done in the art school.

What is the future of the college? Dr Hoggart agrees that the college is in one of London's depressed areas to build up new courses. There are plans for postgraduate certificates in multi-cultural studies and in Caribbean studies. There are also hopes of expanding the full and part-time degree courses in sociology, social science, administration and applied social studies diploma.

Above all, Dr Hoggart, who took up his post in January, hopes that

the numbers taking part-time degrees will increase. Perhaps to focus a Birkbeckian London? "We are not completely like Birkbeck, of course, but we do have a strong Birkbeckian seam and I should like to see this strengthened."

He thinks the expansion will come in traditional academic subjects such as English and French and plans to look at Birkbeck to see what Goldsmiths can learn from them.

He emphasizes that the college has already travelled some way along the road towards this goal. People tend to think of it as a very good teacher training college, he says. In fact the college's roots go deep into the local community and the building is open from early morning until late at night for language and literature classes, orchestras, painting classes and recitals. You can learn about citizens' rights, modern Hebrew or how to teach art to 80-year-olds. There is also an evening students' association which organizes a variety of clubs at the weekend.

The Birkbeckian theme crops up again in the context of the continuing discussion about the college's relationship with the university. It has been the policy of the delegacy or governing body for several years that Goldsmiths should become a school of the university. At the moment it is an Institute with Recognized Teachers.

Dr Hoggart says the college was disappointed by the Murray report's opposition to its plans but nobody has followed this up. Barter this year Goldsmiths and university representatives met and the college's desire to become a school. Agreement was reached that it will not press a formal request for two years. Meanwhile it will sort out diversification and redundancy problems but its determination about the future is unwavering.

What is the college so eager to become a school? Dr Hoggart agrees that the question needs asking but is strongly in favour of the closer relationship. Goldsmiths is felt by some people to be slightly below the salt. I am not going to waste time worrying about that kind of thing but I think it is fair and right that we should be part of the university.

"The situation of the university institutions in London tells us a lot about the social history of this country. I think it is a reflection of British higher education that there is a London university school in this great depressed area of south-east London."

There are also practical reasons for wanting the change. Some schools of the university now have their own degrees. In subjects such as science where many schools run such courses the remaining schools and places like Goldsmiths find themselves out on a limb.

Another difficulty is that the college's lecturers are not automatically recognized by the university after two years. They have to submit an application. Nor is the college able to appoint people to its own chairs. Even if it can get money for a chair it has to ask one of the schools to be host to the professor.

Some members of the college have doubts about the negotiations with the university. Mr Larr is concerned about the college's independence. He says that the National Academic Awards, which are awarded by the Council for the National Academic Awards, are a worry. He is also worried about the college's participation in the running of the college, which might have to be reduced under university rules.

Goldsmiths, he says, is doing quite nicely on its own, thank you. The college has 3,000 full-time and 4,000 part-time students and clear potential for expansion. He says that the college's new diversified degrees make up for the loss of teaching places but there are signs that the degree subject matter will grow. With the squeeze on higher education, the squeeze on Dr Hoggart's Birkbeckian plans look good since the need for part-time education is greater than ever. Mongrels, he says, are very healthy.

Games academics play to improve teaching

Anxiety, lack of confidence and indecision were some of the symptoms displayed as many academics were taken back to their student days in a workshop on simulation in higher education, held last week at the Institute of Education.

These unhappy states of mind arose from exercises organized by London University's Teaching Methods Unit (TMU) in familiarize participants with a range and type of existing materials for simulation.

They can be broken down into three general categories: case studies, role play and educational games. The workshop aimed to help participants evaluate the possibilities of simulation methods for their own teaching and to consider the design and development of suitable materials.

This is one of the most popular workshops. Mr David Jackson, a member of TMU, and tutor on the course, said, "I am not sure if this first time last year was an experiment and it was so successful we decided to run it again."

This year the workshop had attracted 20 participants from British and overseas institutions of higher education, including disciplines ranging from medicine, engineering, social sciences and international relations to occupational psychology.

Participants attended for a variety of reasons. Some, like Dr Brian Curwin, who teaches physiology at St Mary's medical school, were looking for new ideas. "I am not looking for a specific game but more for new materials which I can adapt in my teaching," he said.

Others, like Dr F. Gleeson, of the University, said they attended to see if in whether simulation was cost effective considering the time and effort which go into their preparation.

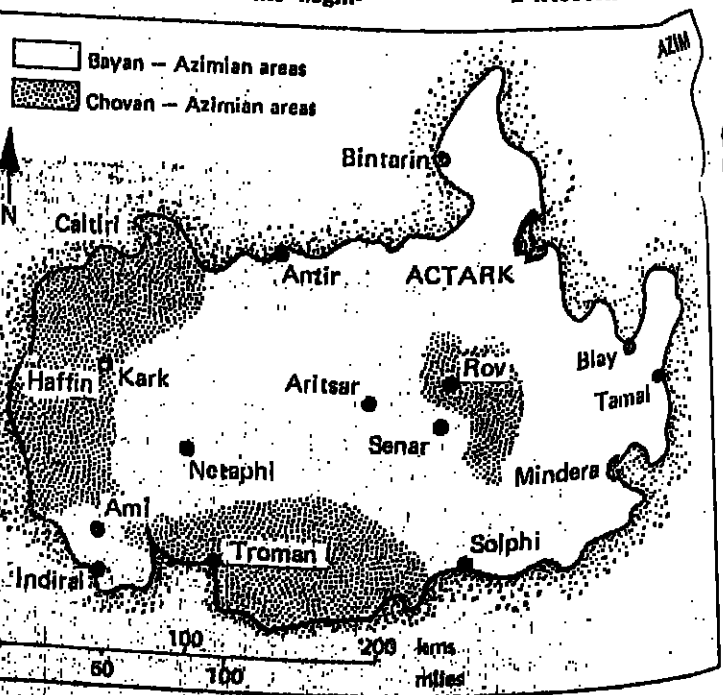
Another participant, teaching sociology at Leicester Polytechnic, said that, although he personally liked simulations, he doubted the use of these techniques in the present economic climate.

There is obviously much truth in these observations. However, it is unlikely that many other teaching methods would effect the personal information gained by such participation taking part in a simulation.

Role play as an exercise is particularly revealing of participants' personalities. It demands that participants assume roles and live out decisions of the exercise. In our case, it turned out to be an exercise in confusion and embarrassment, as we assumed our roles as students and one unfortunate participant that of the tutor.

Our role cards indicated that the situation was a lesson and briefly mentioned the roles which ranged from: "you are a student, try to become the centre of attraction in the class. You must do what the tutor asks you to do," to "you are the tutor, you cannot start the lesson until someone asks you a question, nor can you ask until one of the students gives you a signal."

Our failure to construct a situation around the statements on these cards was obvious from the beginning.



Azimian, an imaginary role-play island of conflict.

Introduction

The decade following the publication of the Robbins Report in 1963 may well be looked back on as one of the most eventful in the history of British higher education. For only was there expansion along the lines advocated by the Report, but a great deal of innovation as well.

If some of these innovations—such as the new universities—turn out to be less novel than they were originally, the unexpected capacity of traditional institutions for pragmatic but substantial change more than redressed the balance.

Now, as everyone is aware, the climate has changed. Capital expenditure has been cut back, and many universities and polytechnics are either pooling vacant posts or freezing all new appointments. The ratio of staff to students is less than it was a few years ago, and a serious graduate employment problem.

Our own project came right on the cusp of this change. We began our general study of undergraduate teaching in the Indian summer of expansion. When we finished, four years later, having visited 65 university institutions and 20 polytechnics, the current frost had set in.

Our theme is how best to avoid waste: waste of resources; of people; and of ideas. We are not concerned here with such general measures as might be taken to economy in higher education; the closure of small departments or institutions; the modification of academic tenure; the substitution of student bursars for grants; the reform of the system for financing universities and polytechnics.

Our project was not concerned with institutional or systemic change. Our focus was teaching and learning, and more about it than anyone else, and hence often understood best where useful changes can be made. This report is concerned, among other things, to focus attention on such local ingenuity, and to emphasize its importance.

Some of the best suggestions for avoiding waste are indeed local ones, born of local situations and local possibilities. The man or woman on the job knows more about it than anyone else, and hence often understands best where useful changes can be made. This report is concerned, among other things, to focus attention on such local ingenuity, and to emphasize its importance.

As against this, it could be argued that the experience of project work will remain with students long after they have forgotten most of the content that was "covered" in conventional lectures and classes. If a department decides to keep its project work, it may need to reduce other demands on staff. Examinations and assessment might also have to be reconsidered in terms of priorities. Long essays and projects take a considerable amount of time and effort to mark; and the marking of essays is a writing-off of virtually the whole of the summer term, because of set examinations, justifiable. Does the business of grading students—which can take up as much as a sixth, if not more, of the total teaching time—need to be streamlined or abolished?

The prospect of imminent execution, it has been said, concentrates the mind wonderfully. The future facing university and polytechnic departments is a good deal less Draconian, but the moral may be the same. There is no longer the time, nor are there the resources to do everything. If there ever were, and the skills already developed in assessing the relative merits of students may have to be re-applied to the less familiar task of weighing pros and cons and ordering priorities in teaching methods, content and examinations.

Priorities in method and content

We begin by citing the example of a history department in a civic university. This department, like many counterparts elsewhere, had been employing the familiar mixture of lectures, small group work and private study when it was faced with a relatively sudden deterioration in the student ratio, and the consequent impossibility of continuing on as before.

The department was forced to choose which of its teaching methods were essential to the course and to the study of history, and which were dispensable. After looking carefully at the various alternatives, the department decided to abandon lectures altogether and to concentrate the whole of its staff effort on teaching in small groups. Although there was no increase in its money manpower, there was no catastrophe. The department managed, although a difficult one, had been thought through rationally; and it worked.

The point here is not to emphasize the value of small group teaching: a different situation might call for a different decision. But in the present economic climate, it seems inevitable that many departments will have to go through the same agonizing process of deciding what can be discarded, what must be retained, and what needs to be introduced de novo in most new needs.

Departments of art and design find their very individual mode of teaching under increasing pressure; science and engineering departments are severely constrained by lack of equipment and facilities; other departments have problems financing field trips; and in the humanities, the individual or paired tutorial becomes increasingly difficult to justify.

The question of priorities also concerns academic content. How highly does a department value its array of final-year options, which, although satisfying to teach, may each attract only a handful of students? Should not the range be pruned, and more resources put into mainstream first and second-year teaching? Projects, too, are an important feature of undergraduate work in

Final report of the Nuffield Foundation group for research and innovation in higher education



Nuffield Lodge, home of the Nuffield Foundation.

Part I—Resources

One of the effects of the current cuts must be to make departments and lecturers look again at how they teach, as distinct from what they teach. A department faced with a less favourable staff-student ratio might simply conclude that everyone should henceforth put in longer hours; however, we should like to suggest a number of ways in which the pattern of teaching might be changed to keep its project work, it may need to reduce other demands on staff. Examinations and assessment might also have to be reconsidered in terms of priorities. Long essays and projects take a considerable amount of time and effort to mark; and the marking of essays is a writing-off of virtually the whole of the summer term, because of set examinations, justifiable. Does the business of grading students—which can take up as much as a sixth, if not more, of the total teaching time—need to be streamlined or abolished?

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The question of priorities also concerns academic content. How highly does a department value its array of final-year options, which, although satisfying to teach, may each attract only a handful of students? Should not the range be pruned, and more resources put into mainstream first and second-year teaching? Projects, too, are an important feature of undergraduate work in

many departments, and are often thought to develop essential creative or research skills; yet the supervision of projects consumes a good deal of time, and it may be important to ask whether the skills they develop are essential to all students, or if they are mainly of benefit to intending postgraduates.

As against this, it could be argued that the experience of project work will remain with students long after they have forgotten most of the content that was "covered" in conventional lectures and classes. If a department decides to keep its project work, it may need to reduce other demands on staff. Examinations and assessment might also have to be reconsidered in terms of priorities. Long essays and projects take a considerable amount of time and effort to mark; and the marking of essays is a writing-off of virtually the whole of the summer term, because of set examinations, justifiable. Does the business of grading students—which can take up as much as a sixth, if not more, of the total teaching time—need to be streamlined or abolished?

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The quality of teaching

A department may work out its educational priorities, and, in the light of these, decide on a particular pattern of teaching; but that still leaves untouched the problem of the quality of teaching—how well it is actually carried out in practice.

Teaching time is, of course, a scarce and valuable commodity; so it is important that staff and students make the best use of it. The Open University's two-week summer schools stand as one example of what can be achieved in a very short period. Most university and polytechnic courses manifestly underachieve enough, rather less sense of urgency.

To some extent, this is a problem of motivation: it depends how much staff and students want to put into the course. As every lecturer and student knows from experience, it is hard to picture the world from precisely their standpoint, and in particular to realize that there are often several competing demands on their generation.

Seeing things through the eyes of the student can of course go a long way beyond making sure that the overall curriculum is coherent and comprehensive. It may mean trying to enter into the learner's psychological frame of reference, and becoming more sensitive to individual and collective problems of mental and emotional adjustment. This is far from easy.

For example, we have the impression that few teachers make enough allowance for the difficulties newly-arrived students have in getting to grips with an unfamiliar learning context, new methods of study, and perhaps new subject-matter (if not a familiar subject

it is something of a miracle that it often works as well as it does. Those who organize the training of teachers in higher education can sometimes be downright counter-productive, promoting a simplistic view of teaching which reduces it to a matter of "skills" and "tips".

There are, of course, identifiable skills involved in lecturing, small group teaching, project supervision and assessment, and staff need to acquire these, preferably early on in their careers (though not crammed into the first few weeks). But the essential requirement is a change of attitude: from regarding teaching as a process that is either so simple that it is not worth talking about, or so mysterious that it is impossible to talk about, to a more considered view.

The truth, surely, lies in between: teaching is complex but it can be talked about. Often, the best language for doing so is not the educational officialdom of "objectives", "reinforcement" and so on, but the vernacular that academics use privately, when they fitfully raise these matters with each other. This vernacular abounds in analogies and metaphors: "really getting to grips with the subject... laying a good foundation... tying up loose ends... a first-class mind..."

To reiterate: we suggest that, apart from some formal induction and the acquisition of immediately necessary skills, lecturers should help each other by discussing and analysing each other's teaching. Through time, some individuals are likely to emerge as particularly good analysts, and might take on the formal training role within their department or faculty. Such training groups could make use of some of the materials that are available as a stimulus for discussion, such as videotapes of small group teaching or case-studies of courses; and they could collectively examine videotapes of their own lectures and seminars.

Higher education, more than other levels of education, depends on both teacher and student; and it would be appropriate if this shared responsibility were overtly recognized by making discussion about the curriculum an accepted feature of every course. (Indeed, we suggest, in the section on Portfolio Review—how it might be built into the formal scheme of things).

The quality of learning

It sometimes comes as a shock to academics to realize that learning is not the exact inverse of teaching. However sensitive a lecturer may be to the needs of his or her students, it is hard to picture the world from precisely their standpoint, and in particular to realize that there are often several competing demands on their generation.

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in a new guise). First-year students may also have considerable difficulties in estimating the standard of work they have to produce in order to survive, and in working out their level of ability in relation to their peers.

Seeing teaching from the point of view of the learners can be made easier if staff occasionally meet their students to discuss how they study, what kinds of teaching are most helpful, and how they go about mastering new ideas and material. Where teachers have instigated discussion with students on these lines, they seem to have found it enlightening.

Occasionally there can be surprising or disconcerting discoveries. For example, that, while teaching tends to be linear and regularly paced, learning takes a far more variable, backwards and forwards course, so that for long periods students may be lost without appearing to be so.

A lack of sensitivity or sympathy on the part of the teacher to such difficulties may well result in stolid and unyielding silence in a seminar group, or a panic throwback to the worst excesses of A-level regurgitation of facts in an exam. To try to understand where the student stands is not necessarily to be sentimental and soft-headed: it can equally well be in the interests of a hard-line academic approach.

Student autonomy

It is commonly accepted in higher education that students should take an increasing responsibility for their own learning. This idea, simple enough in theory, is rather complex in practice, and is certainly not one that can be quickly or easily realised.

For most students secondary education establishes a pattern of direct dependence on the teacher. This pattern is not easily broken, and indeed continues through higher education in many departments, particularly in faculties of the science and technology. Students there often regard their work as finished when classes finish.

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How many doctors America needs, and of what type, is causing much public discussion.

Medical schools: cutting out the dead wood

Medical education in the United States is being buffeted from all sides. Competition to get into university medical schools is fiercer than ever, yet these students who succeed are subject to such stress that an estimated 85 per cent seek psychiatric advice before graduation. Medical schools are being accused of discriminating against minorities, yet a California school has just had its minority admissions programme ruled illegal. An important survey by the Carnegie Council on Policy Studies in Higher Education has warned that America is building too many new medical schools, yet the government has just ordered existing schools to admit students trained overseas in an effort to increase the number of doctors.

Medical education is under public scrutiny as never before for several reasons. Doctors are extremely highly paid, and competition to become one is therefore intense, especially in the new climate of 'vocationalism'. At the same time Congress, writing the National Health Service Act, has revealed scandalous overpayments in the present medical system, and doctors are generally accused of exploitation.

Attempts to reform the pattern of medical training to improve the uneven distribution of specialists and increase the number of general practitioners by setting quotas ran into strong opposition this summer from the medical schools themselves.

The argument was vociferous. Senator Edward Kennedy led the charge. Senate subcommittee on Health, while medical schools enlisted some of the weightiest figures in the academic world to protest against 'unwarranted interference with the academic decisions of the schools'.

The Health, Manpower and Education Assistance Act was passed in October, and a compromise was reached on the proposals which had so antagonized the medical profession. But a provision slipped in, almost unnoticed, that is now causing a great stir in the medical schools; they will only be eligible for government support if they reserve places for Americans who originally failed to get into United States medical schools and are now studying abroad.

Dr Kingman Brewster, President of Yale University, called this 'an outrageous federal intrusion upon the autonomy of the medical schools'. The provision was condemned by the American Medical Association, and many other medical schools are now studying the law.

Archivist degree
An interdisciplinary MA programme to train archivists has been started at New York University with a grant from the National Endowment for the Humanities.

The university's extensive holdings of papers and manuscripts dating from the 1820s will be used to train students in archival and historical editing. Four volumes of the papers of William L. G. and one of the signatures of the Declaration of Independence, are also awaiting editing.

In this final article on testing, our North American correspondent looks at the claim that exams are 'culturally unfair'

How can the bias be corrected?

The weightiest charge made against public examinations and most forms of academic testing in the United States is that they are biased. Their values are 'culture-specific', reflecting white middle-class attitudes and language. It is said. They are therefore of no use in predicting the potential of black, Spanish-speakers or other minority groups, or in measuring their achievement.

These charges have been influential both in stimulating research into tests themselves and in turning educators against the whole concept of testing and professional organizations, psychologists and educational groups, have all declared opposition to testing, and state legislatures and even courts have become involved.

The National Education Association, America's largest teachers' union, voted in 1973 to rid of IQ scores in cumulative records and censured the testing industry for not responding to the needs of culturally diverse children. It also called for a review of all current tests.

Another consistent critic of tests has been the Association of Black Psychologists. Last year they voted not to develop an organizational working relationship with any testing corporation in order to keep status as an independent critic of test bias.

In 1972 California forbade the inclusion of test scores in cumulative records, established an Equal Testing and Insisted on parental consent before children were placed in classes for the retarded. The legislation also ordered school districts to use the same mechanisms and resources to assess potential. There have been at least 30 court suits to force school districts to stop inaccurate testing of minority children.

A major conference was arranged last year by the Government on the specific topic of bias, and various methods—using statistical models, sampling, validation and so on—were outlined of how to construct unbiased tests.

But at the conference several points were raised which have found increasing favour, even among minority leaders. Dr Robert Kibel from Michigan State University said there were three alleged sources of bias: tests required abilities that not all pupils had an equal opportunity to learn, they used better language than others, and they measured different aspects of achievement in different pupils.

On the first point he commented that if pupils from inner cities or suburbs did poorly on a particular test of achievement because they had less opportunity to learn what was required, this did not mean the test was biased, or the pupil had achieved less overall. It meant, if the test was valid, that the pupil had achieved less in this particular field of learning.

The question of language variation is a source of major controversy whenever testing is discussed. Dr Kibel said it was reasonable to suppose that children from homes where standard English was not spoken would be hampered not only in taking tests but in all school learning. If children did not quickly learn to communicate in standard English, their future in school and unproductive. A language deficiency of language deficiency revealed a serious deficiency in achievement that needed correction: it was not a biased measure of achievement.

But many disagree. In a book endorsed by the National Council of Teachers of English, children have a right to learn their own language. This led to a book on how to teach children of different languages. On validity, Dr Kibel said the test must be able to measure the test is valid. This might seem to be the only way of validating a test, but it is a process of measuring speed, temperature, height, weight, consumer price, stellar distance, sea level.

No one has yet shown a way of eliminating all bias. As an official of the Federal Testing Service remarked, 'We do distinguish test bias from distinguishing bias from bias'. In the general case, no longer possible. American Federation of Teachers believes standard tests will be lines may run up against testing to testing at school level and the determination of college entrance.

They say tests should be used by teacher should be used by results should not be used as basis for school funding. It should be accompanied by explanations of what they say to do, and a warning that misuse of results for different or ethnic groups. The differing levels of group performance on tests was in itself a test bias was false.

Campuses stay cool on separatism
If the shock waves running through English-speaking Canada in a separatist election victory in Quebec have yet hit the province's major speaking universities, they are hiding them well.

McGill University is maintaining a policy of strict neutrality. It said that until the new government has formed a Cabinet, named a Minister of Education and outlined its policy on higher education, it was too early to make an assessment of the election result.

A major worry might be that the new government would do more to promote the use of French and the place of French-speaking universities at the expense of Anglophone institutions.

Dr John O'Brien, rector of Concordia University in Montreal, gave a television address last week at McGill. The English-speaking universities would expect no less than justice, he emphasized.

The new government probably has better contacts with the academic world than any previous one. Some 29 newly-elected MPs from the Parti Quebecois are teachers, including two currently on strike at Laval University.

One of the new government's first concerns will be a speedy settlement at Laval University and the Montreal campus of the University of Quebec.

Berne aims for larger planning role

Greater coordination between research and university development is proposed in a Bill to be presented to the Swiss Parliament by the Federal Council. The Bill, if implemented, will come into effect on January 1, 1978.

The Bill also proposes to introduce a new planning mechanism as well as additional federal assistance to those cantons which contain universities.

In Switzerland higher education is administered at the federal level and at the cantonal level. Since the cantons have a large degree of independence the question of extending federal planning is often regarded with suspicion.

The federal level of higher education administration covers the polytechnical universities of Zurich and Lausanne, which are financed directly by the confederation. The universities, however, are the responsibility of their respective cantons.

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Unified teacher training courses proposed

Greater coordination of teacher education and the creation of a basic training course for all student teachers, regardless of the type of school they intend to work in, are two of the main recommendations of a report recently received by Mr Kjell Egeland, Education Minister.

Drafted by a committee set up to look into the coordination of training two years ago, the report also recommends the merging of the institutions with joint planning of studies and a re-evaluation of the theoretical aspects of university training.

These sharp distinctions between the present types of teacher training, under the existence of separate trade unions—should also be lessened so that all teachers have the possibility to work in the final three years of the comprehensive and upper secondary schools (16-18 year-olds).

There are three main categories of teacher—class teachers (lærer) for 7-13 year-olds and in practical and vocational subjects, subject teachers for 13-16 year-olds (adjunkt) and those for secondary pupils (lektor)—and all receive different training.

The report says that a common basic course succeeded by later specialized instruction would give a student a broader range of competence. In addition, future appointments should give greater weight to teaching ability than formal qualifications.

At present the training colleges run two types of course. One lasting three years, leading to a secondary matriculation examination entry. The other is a four-year course for over-17s with some post-comprehensive education for which entry

exams are held. Both qualify students to teach 7-13 year-olds.

Students can then upgrade their status to the *adjunkt* level by taking one-year supplementary courses at specialist colleges for arts, crafts, domestic science and physical education or at two secondary university summer schools where they take theoretical subjects.

Upper secondary school teachers are graduates who have taken the full length six to seven year degree and a further six months' practical training at a pedagogical institute.

The need to integrate these categories, though being fought bitterly by the teaching unions, first became evident with the lengthening of comprehensive schooling ending the boundary between six-year elementary schools and three-year lower secondary schools.

It has become even more necessary with the launching of the Government's current 10-year plan to integrate the academic *gymnasiums* and vocational schools into a comprehensive system based on schools of further education (*videregående skole*).

Begin last year, the plan is expected to reach 90 per cent of 16-18 year-olds continuing voluntary post-comprehensive schooling. At the same time two thirds of the 45,000 new places to be built will be for vocational studies.

Not only does this challenge the position of the academic subject teachers, it also underlines the need, stressed by the committee, to initiate constant reviews of teacher demand. Contributing to this is the declining birth rate, the end of the compulsory examination entry. The other is a four-year course for over-17s with some post-comprehensive education for which entry

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Leaving-exam reforms continue as selection pressure grows

France is about to put the coping stone on an educational reform that has been under way for the past 12 years. Begun in 1964 with the creation of the first comprehensive middle schools for the 11 to 16-year-olds, it is now moving into the final stages of changing both the structure and the curriculum of the 16 to 19 age range. The question of curriculum reform would pose few problems were it not for the fact that public opinion seems increasingly to be in favour of some measure of selection for entry to university.

One opinion poll, carried out for a TV programme, suggested 40 per cent would back selection—a 6 per cent increase since May. Another, commissioned by Mme Alice Saunier-Seïte, Secretary of State for Universities, indicated that as many as six people out of 10 would support entry restrictions.

The current in favour of restrictive policies for admission has ample munitions to hand. There is the cost of maintaining the traditionally open system for all school leavers with the Baccalauréat. Between 1960 and 1976 student numbers in university expanded threefold. This year, university enrolments were 825,000 or 22 per cent of the 19-21 age group. There is the growing difficulty of finding places for the thousands of graduates who are seeking employment throughout the education system and the feeling among some Ministry of Education officials that priority should go to pre-school education.

For the government, the issue is whether selection should be introduced in the upper secondary school or at the point of entry to university. If the latter, then this, obviously, would be the responsibility of the Secretary of State for Universities. If, on the other hand, it is to be introduced in the framework of examination reform, it would fall into the sphere of M René Haby, the Minister of Education.

In the meantime, the reform of the Baccalauréat—the school leaving certificate governing university entry—will continue. It is possible a new-style examination will be introduced in 1981. Current proposals involve a two-tier structure. The first part, to be taken at 17, will examine a broad range of school subjects. The second, to be taken in the class de terminale (18 plus), will involve certain optional, based around a common core of philosophy and physical education.

The first steps in evaluating this examination structure will begin next September. Between five and 10 experimental schools will be set up. If the results are judged satisfactory the examination will be introduced throughout the country.

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Low means test ceilings lead to Dublin 'saving' of £750,000

More than £750,000 voted by Parliament for loans and grants to students in third-level education returned unallocated last year, according to appropriation accounts published by the government.

Of the £1,473,000 allocated for the normal higher education grants, unavailable by students following degree-level courses at the universities and at limited number of other institutions, £361,180 remained unallocated at the end of the year. And of the £2,502,500 allocated for the scheme of grants and loans designed specifically to meet the needs of trainee primary teachers in the colleges of education, £154,842 remained unallocated.

The main reason is because the upper income ceiling for grant purposes (there is a stringent means test) has not been adjusted upwards for several years despite high rates of inflation. This means that many families whose income may not have increased in real terms over the past three years now find that inflation has effectively put them beyond the threshold.

As well as the failure to increase the income ceiling, the 'hardship' of the scheme, which is on a two-tier basis in that wage or salary earners' eligibility is calculated in strict monetary terms, whereas the eligibility of farmers' children is determined on a valuation basis.

Rural delegates to last month's Labour Party conference in Limerick argued that the existing valuation basis could include many comparatively wealthy farmers, while their farm workers might find themselves excluded because of the wage limit. A further point of contention is that the large majority of farmers do not pay any income tax: it was only last year that a minority was included in the tax net for the first time.

The more populated and prosperous eastern part of the country has the lowest proportion of school-leavers who go on to higher education (17 per cent) and the relatively poorer, western region the highest (24 per cent). These figures, however, mask some very marked discrepancies within regions. In Dublin, for example, the more prosperous housing areas send 27 per cent of their school-leavers on to higher education, and the working class areas send 7 per cent or fewer.

There are similar discrepancies in the western areas. Co. Sligo sends 30 per cent of its school-leavers on to higher education, but its neighbouring county, Leitrim, sends only 11 per cent.

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Academic tax loophole may be plugged

One of the perks of being a university teacher in America is that one's children can be educated. But if the Internal Revenue Service has its way, this soon may change.

BOOKS

Eccentric in exile

Vision of All-Unity

The discovery of Russia

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ARCHAEOLOGY OF ANGLO-SAXON ENGLAND



GEOGRAPHY FROM LONGMAN

Soils in the British Isles
L F Curtis, F M Courtney and S Trudgill

This book provides an introduction to a range of ecological and land-use problems in which the soil is the vital dimension. A number of these problems are taken as a framework for a selected regional discussion of soil types found in the British Isles. After an introduction to concepts and terms in soil science, the heart of the book takes a number of themes and examines them with local examples. These include sections dealing with the uplands and the impact of prehistoric man on early soil formation, the effects of glaciation and the influence of periglacial conditions on soils in the British Isles. The concluding part of the book examines cases of soils under stress. Examples are given of the effects of large-scale drainage schemes, problems of wind erosion and pollution, and the impact of modern farming technology. This book is primarily written for first and second year undergraduates studying geography, botany, geology, environmental studies and related fields, but members of the public with an interest in environmental issues, and the countryside will also find it valuable. Cased £9.95 net Paper £5.95 net

The Periglacial Environment H M French

Dr French begins with a general introduction to periglacial conditions in which the extent of the periglacial domain and the variety of periglacial climates are considered. The main part of the book describes and explains the landscape of present day High Arctic and Continental periglacial regions. Special emphasis is placed upon the landscape of the lowland, tundra and forest-tundra areas of the Canadian Arctic and Northern Siberia. The third part of the book assesses the importance of Pleistocene periglacial activity upon the landscape of the temperate latitude regions of North America and Europe. Various comparisons and contrasts are made with present day periglacial environments. This book is written mainly for second and third year undergraduates of geography. Cased £7.50 net Paper £5.50 net

The Climate of the British Isles Edited by T J Chandler and S Gregory

This is a sound and thoroughly up-to-date account of Britain's climate. Each of the fifteen chapters, which deal with different features of the climate, has been written by an expert in the particular field. It has two major objectives in view: to present a concise, critical account and evaluation of the climatological literature and the relevant ideas derived from this; and to summarise the factual position, as evinced by the most recently available data. This book is invaluable to students on degree courses in Geography, Climatology and Meteorology. The text assumes a basic understanding of meteorological processes, although much of the factual information will be readily accessible to the non-specialist. Cased £7.95 net

GEOMORPHOLOGY TEXTS General Editor: K M Clayton

This series is now available in paperback editions. All texts carry wideranging bibliographies, so that the collection represents a comprehensive guide to modern advanced work in Geomorphology.

Weathering D C Ollier

This book considers the highly important process of weathering, the breakdown and alteration of material near the earth's surface into products that are more in equilibrium with the newly imposed physico-chemical conditions. The processes at work, the material operated upon and the products of weathering, including soil profiles, weathering profiles and some landforms are all considered in this account together with the time factor which is treated on the geological scale. Paper £6.75 net

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Most of the land on the earth is formed by valley slopes. This book is a study of the earth's surface and surface processes. It is a study of the forces that shape the land, of the processes that operate on the land, and of the landforms that are the result of these processes. It is a study of the earth's surface and surface processes. It is a study of the forces that shape the land, of the processes that operate on the land, and of the landforms that are the result of these processes. Paper £4.50 net

Glacial and Fluvio-glacial Landforms R J Price

The importance of glacial ice and meltwater as agents responsible for the form of the earth's surface has long been recognised. In Dr Price's account of his subject he concentrates on the relevance of contemporary glacial environments to an understanding of the processes involved in glacial deposition, and in the arrangement of glacial deposits. Paper £4.00 net



BOOKS On a global scale

The World Trade System: Some Enquiries into its Spatial Structure
by R Johnston
Holt, £5.95
ISBN 0 7135 1935 5

Despite the immense economics literature on trade and development, no economist has attempted a full description, let alone analysis, of the spatial patterns of world trade. Similarly, although geographers have examined spatial interaction at a variety of scales, none has previously tried a global analysis.

Professor Johnston's study concentrates on the years 1950 and 1965. In the first chapters that report the substantive analysis, the author examines such things as the degree of concentration of imports and exports, by commodity and country by origin (destination) and the extent to which simple interaction models can be fitted to the data. He is able to compare the parameters of his models for the two years and concludes that despite the enormous absolute growth in world trade, the spatial patterns of aggregate trade flows have been very stable.

Despite the considerable labour of compiling the data and running the time-consuming computer programs, most of the results are surprise-free and yield only low or moderate coefficients of correlation. Given the high level of sophistication and the technical problems associated with the statistical manipulation of large areally based data sets, the rather tentative nature of the findings need occasion no surprise.

Professor Johnston is well aware of the technical problems. In principle, his data consists of matrices portraying the volume of trade, arranged either as the imports (ex-

ports) of commodities nation-by-nation, for as inter-nation trade flows. For many purposes, these arrays are adequate. However, no account is taken of intra-national transactions. It may well be that this is a major reason explaining the apparently static effect of distance on the volume of trade between pairs of countries. Another reason may well lie in the use of a single origin/destination point for each nation—something noted by the author. However, technical issues of this nature should be regarded less as a criticism of the book and more as a challenge to other workers to extend the analysis and examine ways of overcoming the deficiencies.

About one-quarter of the text is occupied by appendix one, which gives country-by-country details of indices of commodity specialization, loadings from cross-product component analysis, indices of trading partner specialization, interaction model parameters, and shift and share data. Though it is undoubtedly useful to have these data, they do bulk large in relation to the three substantive chapters, which discuss the results in 101 pages. For the majority of readers the appendix could readily have been sacrificed to permit a more extended discussion of the results.

The World Trade System, the latest volume in the Advanced Economic Geographies series, is less a student textbook and more an exploratory research monograph. Still Professor Johnston is to be congratulated for his courage in venturing into very difficult territory. His explorations suggest that there is much work remaining to be done.

Michael Chisholm

Spaces for places

Place and Placelessness
by Edward Relph
Pion, £4.50
ISBN 0 85086 055 5

I finished reading *Place and Placelessness* feeling that I had been harangued by some latter-day, geographically-minded John Knox. The text of the sermon was a familiar one. Relph argues that people can no longer have real or meaningful experiences with places because the traditional ties have been broken by mass communications networks, mobility, tourism and international architecture. As members of this mid-twentieth-century Western society, our relationship with landscapes and places are shallow, stereotyped, manipulated, mindless and destructive of those "real places" which have so far managed to survive.

Within the last few years there has been considerable growth of interest in the phenomenological aspects of the relationships between people and places. Using an existential framework, Relph has collected a wide variety of viewpoints from philosophical, social and environmental sources to provide illustrations of the identities of places and the unique qualities which have been attached to them through different intensities of human experience. He then interprets our experience of places in the light of these "existential" qualities. "Authentic" experiences in place (based on "genuine" and "meaningful" experiences) are contrasted with "inauthentic" experiences, which are based on "pseudo-experiences". Our "inauthentic" attitudes are described as the drift towards placelessness, the creation of "undifferentiated" places which allow and encourage a bland, uncaring response.

This is a provocative book which may be commended to those interested in the evolution and design of places. In his attempt to stimulate discussion, however, Relph has opened himself to a number of criticisms. In terms of presentation, the multiplicity of sub-headings is frustrating for they serve little purpose beyond breaking up the argument and encouraging repetition of material. And the author's arguments are flawed. Relph exhibits a disturbing hostility towards most "ordinary" people. He is not, as he claims, a "place person". He is not, as he claims, a "place person". He is not, as he claims, a "place person".

about the poverty of contemporary place experience.

Great play is made of the inseparable links between people and places, and the importance of appreciating and understanding the intentionality of human experience in places. However, Relph has far more empathy for places than for the people who live in them, which leads to simplistic assumptions about the degree to which individuals can be manipulated by society. For example, he writes feelingly about the need to "spare" places from "subordination to the human will... not to change them casually or arbitrarily, and not to exploit them"; whereas he persistently attacks people for apparently enjoying what he considers placeless, tasteless places like Disneyland, Majors or recreated historic sites.

His conclusion is that people are bent like reeds to the whims of big business and the mass media. The latter, he concludes, present a simplified and distorted view of places which "tend to fabricate a pseudo-reality of pseudo-places. And someone exposed to these synthetic identities will almost inevitably be inclined to experience actual places in terms of these" (my italics).

The extent of his opposition to modern attitudes to the preservation and creation of new places at times seems too extreme even for the author and in the latter part of the text appear sudden changes of position which fall far from true. For example, after two chapters in which he complains about the kitsch sentimentality of new places and castigates people for callously exploiting landscape novelty, having virtually demolished all contemporary experience of place as worthless, he finds himself forced to acknowledge that the everyday environment "is in some respects a vital mess because it is a mess or less unconscious expression of people's activities and wants". In other words, it is a genuine experience of place. I believe that people still have meaningful experiences with places and certainly they have deep attachments, both in communities and individually towards landscapes. And I believe that really, Relph shares these feelings.

Jacqueline Burgess

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Gully formation

Arroyos and Environmental Change in the American Southwest
Donald U. Cooke and Richard W. Meade
Oxford Press: Oxford University Press
£8.50
ISBN 0 19 823213 6

"Arroyos" is a gully characterized by nearly vertical walls in the sediments with a flat waxy floor; such features occur extensively throughout the arid and semi-arid world. Those of the American Southwest have excited scientific interest for half a century because of the rapid incision of these beds which occurred between 1850 and 1920, especially from 1870 to 1890. This major environmental upheaval occurred on a scale comparable to the environmental upheavals that are typical today.

There are two views of such channel catenae; the first is that they result from inherent instabilities in the system; the second, that they represent rapid responses to some externally imposed stresses. In this case some have argued for climatic change as the external stress; others relate the changes to intensive grazing by cattle. Both are causally linked by the processes of hillslope and channel run-off, though the link is not usually made explicit. Cooke and Meade seek to narrow the area of speculation and uncertainty surrounding the study of arroyos and related environmental changes. This they do in the context of existing explanatory hypotheses.

They conclude that apparently similar arroyos can be formed in different areas as a result of different combinations of initial conditions and environmental changes. Yet this conclusion is not so trivial as it appears. In essence they find that in Southern Arizona precipitation trends significantly influenced arroyo formation whereas in Southern California, the other area studied, there is no evidence of such trends. Conversely, in California, the arroyos wrought substantial

hydrologically significant changes in the vegetation cover, but in Southern Arizona overgrazing "may have been less significant as an ultimate cause of entrenchment than some have assumed". In both areas they demonstrate specific cases where drainage-concentration features (such as the tramping of cattle and the construction of canals) were responsible for the direct initiation of arroyo entrenchment.

It is in this investigation of specific cases that the strength of the monograph lies. Time and again they illustrate, by reference to information from historic records, surveys, maps, regional studies and even "old-timers' reminiscences", the specific causes of entrenchment. This information is treated with the caution it deserves, though occasionally the treatment is unbalanced. Taken together it gives a clear picture of the kind of localized trigger mechanism which varied from one arroyo to the next.

Ultimately they face the dilemma of all historical geomorphologists, including the earlier writers on the subject. The arroyos were essentially responding to the character of runoff and sediment yield but for neither is data available for the period of interest. The authors chose to elucidate the problem by reference to related external variables, so the focus shifts away from the dynamic behaviour of the channels to what was happening to a set of tenuously linked, and poorly understood, proxy variables. This difficulty is compounded, presumably, by the possibility that the response could have been lagging behind the processes producing them by several decades.

Notwithstanding these difficulties, the authors are to be congratulated for achieving what they set out to do. The area of speculation is appreciably narrowed and the reader is left with a much more clearly defined set of questions relating to the actual fluvial mechanisms which bring about such entrenchment.

John Thornes

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Distribution of soils

Soils in the British Isles
by L. F. Curtis, F. M. Courtney and S. T. Trudgill
Longman, £5.95
ISBN 0 582 48556 8

Students in the earth sciences (and their lecturers) have been traditionally served with suitable textbooks on soil distribution and books on soil distribution and geology in a particular region. There are numerous accounts of soil distribution at a higher level—the Russian or North American zonal soils—which portray an apparently coherent system related to climate and vegetation. At a detailed level within the British Isles, Soil Survey memoirs and records provide ample information, but for limited areas which may not coincide with individual preferences and requirements.

In *Soils in the British Isles* the authors make an honest attempt to fill this gap. Following chapters given to general soil systematics and classification, the bulk of the text concentrates on selected landscapes which form units in terms of geology, origin and use of drift deposits, hydrology, climate or relief features. The authors describe the main soils of each landscape and explain their distribution. The approach is therefore a geographical one, and it is probably true that for many specialists working near the fringe of soil science, distribution is the main soil property of interest. Also many students can most easily acquire an understanding of soils from studies of distribution and only later an appreciation of basic chemical, physical and biological processes.

For each landscape the soil pattern is interpreted in terms of its agricultural implications for land use, drainage practices, or in upland areas, for forestry or recreational use. Archaeological and historical aspects, the impact of man on soils and conversely the influence of soil properties on man's use of the land are not neglected. Concluding chapters deal with land resources and capability classification, soil structure problems in modern farming systems, pollution, land reclamation, erosion hazards and conservation.

The text is very well supported by maps, diagrams and plates. Sometimes the use of eight or more closely related stipples on a map can cause difficulty for interpretation. The style is simple and ought not to give the general reader much trouble, though for the specialist many annoying ambiguities are apparent which should not have survived into the finished text.

The book draws heavily on work by the Soil Surveys of England and Wales, Scotland and Ireland and this is fully acknowledged throughout. However the main sources were published before 1974 and in many cases later work would have provided superior examples. Still, the suggestions for "further reading" at the end of each chapter should lead the interested student in the right direction.

Accepting that for a book of this length it is inevitable that some of my main criticisms are that the authors have a limited appreciation of soil physics, particularly of water movement and water storage. The meteorological concept of soil water deficit is not adequately exploited and occasionally is misused, while soil taxonomy is treated in a rather haphazard manner. Whatever the faults of pedologists and the overall state of soil classification (and there are many) it is simply not good enough to switch from one system to another without warning.

A. J. Thomasson

Cartography

The third edition of *Geography and Cartography: A Reference Handbook* by C. B. Muriel Lock is published by Clive Bingley at £15.00. This work combines two volumes into one by augmenting Dr Lock's *Geography: A Reference Handbook* with her study *Modern Maps and Atlases*.

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European link

The Geological Evolution of the British Isles
by T. R. Owen
Pergamon, £5.50 and £2.50
ISBN 0 08 020461 9 and 020460 0

Providing as it does a means of reconstructing the past, historical geology has always attracted students of geology since the days of Lyell. Today the subject has taken on a new dimension for it is now possible to relate the geological development of a limited region to changes on much larger scales, such as those which accompanied the movements of continents from hemisphere to hemisphere or the opening and closing of oceans. Mr Owen is brilliantly successful in using such an approach. He makes free use of recent advances in our understanding of the history of the evolution of the North Atlantic and its predecessor, formed and closed many hundreds of millions of years earlier, to show how the geology of Britain is related to wider changes to the west.

From the east he impounds part of the flood of new data provided by the search for petroleum below the North Sea to link the evolution of the British Isles with developments within the European mainland. On a still larger canvas he employs the results of palaeomagnetic measurements to chart the migration of lands bordering the North Atlantic from earlier positions far to the south.

Owen solves the problem of dealing with the history of the older Precambrian by introducing the older British rocks after two opening chapters. With this exception his treatment is chronological. One of his opening chapters outlines the principles of plate tectonics and a second illustrates these by tracing out the history of the ocean which divided the North Atlantic and Western Europe during the late Precambrian and the early Palaeozoic. Several recent accounts, notably from the Open University, have successfully pioneered this way of bringing together much of the geological record of Western Britain. Owen's particular success lies in his economy of words.

After a glimpse of the early world of the Lewisian, we are taken through Palaeozoic in chapters entitled 'The Old Red Sandstone Continent' and 'From Coral Seas to Mountain Chains'. The sixth and seventh chapters trace our Mesozoic events and the final one the moulding of Tertiary and Pleistocene times.

Owen generously acknowledges his debt to his students. The clarity and economy of every page reflect experience gained in 30 years of teaching and show at the same time why his students regard him so warmly. This volume will put a still wider audience in his debt.

John Sutton

Reviewers

Jacqueline Burgess lectures in environmental perception at University College London.
Michael Chisholm is professor of geography at the University of Cambridge and co-editor of Studies in Human Geography.

Keith Clayton is professor of environmental sciences at the University of East Anglia.
J. G. Gaze is professor and head of earth sciences at the Open University and co-editor of Understanding the Earth.

R. E. Harrison, author of Holderness and German Literature, lectures in German at Kings College London; Charles Reynolds, author of Theory and Explanation in International Politics, lectures in politics at the University of Durham.

John Sutton, professor of geology at Imperial College London.
Philip Thody is professor of French literature at the University of Leeds.

A. J. Thomason is a regional soil surveyor with the Soil Survey.

John Thorpe, lecturer in geography at the London School of Economics, is author of Semi-Arid Erosional Systems.

BOOKS
Oil prospecting

Fundamentals of Geophysical Data Processing: with Applications to Petroleum Prospecting
by Jon Claerbout
McGraw Hill, £16.60
ISBN 0 07 011117 0

The rapid development of computer technology and electronic instrumentation in the last decade have been reflected in new techniques and interpretative methods in applied geophysics. In exploration seismology, for example, the effect has been dramatic. Here the development of digital recording techniques has enabled sophisticated processing techniques to be applied which has resulted in more useful seismic records. Their geological interpretation has made possible the identification of oil-bearing structures which would not have been found half a generation ago.

Such rapid developments mean that any author writing about data processing runs the risk of some degree of obsolescence, while the commercial nature of applied geophysics means that companies involved in exploration jealously guard their latest methods. Professor Claerbout is well established in data processing, however, and his research in the Stanford Exploration Project is sponsored by oil companies, exploration contractors and national governments.

His book deals with the theory of many aspects of data processing and it is biased towards his own interests in exploration seismology, much wider applications are possible, both in geophysics and in other physical sciences using computer modelling and data analysis.

The coverage is comprehensive. Early chapters deal mainly with the study of sampled time form, filter theory and spectral analysis. The first chapter introduces the Z transform.

Form and fast Fourier transform followed by chapters dealing with factorization, reflection, and transmission in multichannel and data modelling by least squares.

The application of data processing to seismology becomes central in the later part of the book. Initially wave types are defined by reflection and transmission coefficients and the problem of calculating reflecting coefficients is discussed. There is specific reference to seismic models and more complex processing and the wave equation is used to illustrate the result of seismic processing. Simple geological models are used, only two diagrams of actual seismic records and of them actually show the processing application to the migration.

The book is designed as a book and not a reference work. It is a well designed and well written book which will be a valuable material. It is a principle text in this subject area. Each of the several sections is clearly written and some useful sub-routines are included.

Physicists this may not be a book to use. Geophysicists, however, will find it a most useful and interesting book. It is a well written and well illustrated book. It is a principle text in this subject area. Each of the several sections is clearly written and some useful sub-routines are included.

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Karl Turekian

From Yale University comes this readable survey of current knowledge about our oceans. Includes the topography and structure of ocean basins; tides, waves and coastal regions; deep-sea deposits; and the chemistry and biology of oceans. Thoroughly revised and updated. 1976 160 pp. Cloth £7.95 Paper £4.80

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BOOKS

Sciences of earth history

Early History of the Earth
by Brian Windley
Penguin, £19.50
ISBN 0 471 01488 5

Plate Tectonics and Crustal Evolution
by M. A. Khan
Penguin, £11.25
ISBN 0 03 019594 6

The Early History of the Earth is, in all but name, the published proceedings of a six-day NATO advanced studies institute held at the University of Leicester in April 1975. The institute was of high quality in both the calibre of the scientists attending and the science which was the subject of the institute.

The book is designed as a book and not a reference work. It is a well designed and well written book which will be a valuable material. It is a principle text in this subject area. Each of the several sections is clearly written and some useful sub-routines are included.

Physicists this may not be a book to use. Geophysicists, however, will find it a most useful and interesting book. It is a well written and well illustrated book. It is a principle text in this subject area. Each of the several sections is clearly written and some useful sub-routines are included.

Physicists this may not be a book to use. Geophysicists, however, will find it a most useful and interesting book. It is a well written and well illustrated book. It is a principle text in this subject area. Each of the several sections is clearly written and some useful sub-routines are included.

Both authors are well-known scientists of international reputation. Khan is seismology and Windley is Precambrian geology.

Both books contain chapters on the origin and the age of the Earth, the Earth's internal structure, sea floor spreading and plate tectonics, although Khan's treatment is strongly geophysical whereas Windley's is geological and geochemical. Both are about first or second year university level despite Khan's hope that his text would be useful in schools and Windley's assertion that he is aiming at advanced undergraduates and graduates.

Why Dr Khan called his text *Global Geology* I cannot tell—perhaps because the more appropriate title *Global Geophysics* was used a few years ago. Indeed, in his preface the author states 'this is not a geology book in the traditional sense... the context is largely geophysical'. This context is accepted, the ordering and presentation of the 'largely geophysical' information is logically presented although at times sentence construction is unnecessarily complex. Khan is obviously 'at home' with geophysics which are discussed without recourse to high-level mathematics. Only when he delves into matters geological is the treatment shallow and sometimes naive.

The text is illustrated with numerous line drawings and half-tones, but the former have lost so much by being reduced to fit the small A5 format that some are indecipherable and the photographs reproduce poorly. Most students and teachers will find this book useful, for it takes geophysics just that bit further than is normal in an introductory geology text.

I. G. Gass

Geography Titles from David & Charles

MENDIP
A New Study
ROBIN ATTHILL
72 illustrations £9.50

Discover the distinctive character and history of Mendip in Robin Atthill's new study. He describes each facet of the region's development from pre-Roman times to the present day. Agriculture, botany, industry, architecture and landscape are all included in this gazetteer.

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Meteorologist Ingrid Hofford recounts our climatic battles against the weather in the hope that we might learn from our mistakes. A timely book as Britain's climate becomes less and less equable.

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Volume 5: THE MARINE ENVIRONMENT will be published in May, 1977.

Please order from your bookseller or in case of difficulty write to the publisher:

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HIGHOBRISS, GLASGOW, G64 2NZ

Source books

Dictionary of Environmental Terms
Alan Glyn
Routledge & Kegan Paul, £3.50
ISBN 0 7100 8483 8

Handbook of Environmental Education
with International Case Studies
edited by N. N. Saveland
Wiley, £10.80
ISBN 0 471 75535 4

Interpreting the Environment
edited by W. Grant Sharpe
Wiley, £10.80
ISBN 0 471 77896 6

Sorting out "environmental" books is becoming quite a problem, as these three suggest. *The Dictionary of Environmental Terms* covers just over a thousand terms at about the level of the sixth-form library. It is fairly reliable; definitions are likely to be too vague rather than wrong (for example, X-ray = electromagnetic radiation of short wavelength) and emphasis is on ecology/pollution, rather than resources or futures.

The Handbook of Environmental Education includes a sequence of chapters on curriculum design, method, facilities and media, etc., each with a general introduction. However, the value of the book is undoubtedly the compilation of a number of case studies of environmental education in schools in many countries. This will surely become an essential source book in ecological education.

Finally *Interpreting the Environment*—and it is just that, so save your penicils. Not that the successful interpretation of the natural environment, so well practised in the US National Parks, is unimportant, but its practitioners remain a specialized group. It is, by the way, very well done, although too unselective. Thus turn to page 147 to learn that if you place children at the front of a group, the adults behind can see over their heads.

Keith Clayton

Map and atlas

The second edition of *International Maps and Atlases in Print*, edited by Murray L. Winn and published by Bowker at £25.00, gives detailed descriptions of over fifteen thousand maps and atlases which are available from approximately one thousand official and commercial publishing houses throughout the world.

Drainage Basin Form and Process

A Geomorphological Approach

K. J. Gregory and Walling

New in Paperback

'Using the findings from many sources including geography, geology, engineering, and biology but without slicing the drainage basin into professional disciplines, they provide a collective picture which will be of use to all workers whether they consider the drainage basin as a handy tool for budgets or as a unique spatial aspect of the landscape.' *Science*
Paper £4.95

Glaciers and Landscape

A Geomorphological Approach

David Sugden and Brian John

'The book contains an unusually large number of excellent and highly relevant illustrations. Line drawings and photographs are a joy and the general feel of the book is superb... this is the most important text on glacial geomorphology... *Arctic*
Cloth £12 Paper £5.95

World Climatology

An Environmental Approach

John G. Lockwood

New in Paperback

'It should admirably fulfil its purpose of providing a textbook for advanced students of climatology and geography and a work of reference for agricultural botanists, civil engineers and others.' *Weather*
Paper £5.95 Cloth £9.50

Glacial Geomorphology

THE LEVERHULME TRUST Research Awards 1977

The Leverhulme Trust, through its Research Awards Advisory Committee, offer:

(i) FACULTY FELLOWSHIPS IN EUROPEAN STUDIES
A limited number of awards to strengthen the teaching of European Studies in the universities of this country. These awards are intended to assist senior members of the staffs of universities in the United Kingdom to undertake advanced study or research in a European country or countries, excluding the British Isles, in their particular fields of interest. The fellowships are designed to enable scholars in this country directly to consult their academic colleagues in Europe and to have access to sources of original materials.

The fellow must spend at least six months in Europe normally in not more than two separate periods. The award may be expected to contribute towards the direct costs involved in the fellow's study programme such as subsistence while abroad, travel to and from the European country or countries in which the fellow wishes to study, incidental travel within the country or countries and other incidental expenses. The award will not normally provide for salaries or personal allowances. It will vary as to amount to meet the circumstances of each case, but will not normally exceed the rate of £20,000 with a maximum total value of £20,000.

The closing date for applications (Form F/108) is the 31st December, 1976. The period of award may start from 1st June, 1977.

(ii) SENIOR STUDENTSHIPS
Up to six studentships to enable those who have left university at least five years ago to return and study full-time at a United Kingdom university, preferably, but not necessarily, for a further degree. Applicants must be graduates of a United Kingdom university, holders of C.N.A.A. degrees or able to show evidence of equivalent education in the United Kingdom and not already have a postgraduate degree. They must have been educated at a school or schools in the United Kingdom or any other part of the Commonwealth. They must be over the age of 27 on 1st October in the year of the award.

The awards are available at £1,800 a year for one or two years. At the discretion of the Committee a family allowance of not more than £100 per month may be paid depending upon the candidate's circumstances.

Candidates must be available for interview in London in April: travelling expenses within the United Kingdom will be refunded. The closing date for applications (Form S/21) is 15th January, 1977. The period of award will normally date from 1st October, 1977.

(iii) OVERSEAS STUDENTSHIPS

Up to six studentships for a period of advanced study or research in any subject at an institution of university or university status in any part of the world other than the United Kingdom, Europe or North America.

At the time of application candidates should be first degree graduates of a United Kingdom university, holders of C.N.A.A. degrees or able to show evidence of equivalent education in the United Kingdom or in any other part of the Commonwealth.

They should also have been educated at a school or schools in the United Kingdom or in any other part of the Commonwealth and under the age of 27 on 1st October in the year of the award.

The value of the studentships is £1,000 per year. In addition, an amount of £200 will be provided towards outfit and return passages; additional assistance will be available to meet abnormal requirements not covered by the course of study. Two further allowances may be made at the discretion of the Committee. Firstly, a marriage allowance of £25 per month to a married student when accompanied by a spouse, and secondly, to a student going to a country where the cost of living is exceptionally high.

The awards are for one year or two years if circumstances warrant it. The awards may not normally be held in conjunction with other awards. Candidates will be asked on termination of an award to make a short report to the Committee on their experience within the United Kingdom will be refunded.

The closing date for applications (Form O/28) is 15th January, 1977. The period of award will normally date from 1st October, 1977.

(iv) EUROPEAN STUDENTSHIPS

Up to eight studentships of £1,200 per year for advanced study or research in a centre of learning in any European country other than the United Kingdom or Ireland. Two further allowances of £25 per month to a married student when accompanied by a spouse, and secondly, to a student going to a country where the cost of living is exceptionally high.

At the time of application candidates should be first degree graduates of a United Kingdom university, holders of C.N.A.A. degrees or able to show evidence of equivalent education in the United Kingdom or in any other part of the Commonwealth.

They should also have been educated at a school or schools in the United Kingdom or in any other part of the Commonwealth and under the age of 27 on 1st October in the year of the award.

The studentships are for one year or in conjunction with other awards. Candidates will be asked on termination of an award to make a short report to the Committee on their experience within the United Kingdom will be refunded.

The closing date for applications (Form E/28) is 15th January, 1977. The period of award will normally date from 1st October, 1977.

The results of applications for the above awards will be communicated to the candidates in April, 1977. Applications should be sent to the Secretary, Research Awards Advisory Committee, The Leverhulme Trust, 15-19 New Fetter Lane, London EC4A 3NR. Telephone: 01-248 1910.

Fellowships and Studentships continued

NEWCASTLE UPON TYNE POLYTECHNIC

Department of Administrative
and Management Studies

LECTURER II/SENIOR LECTURER IN MARKETING

required in the Division of Marketing and Distribution to carry out a major advertising campaign, but also to be expected to contribute to a range of courses within a postgraduate Diploma in Marketing (C.N.A.A.), Marketing (BA (Hons) Studies), the Diploma in Management Studies, a number of Higher National Diploma Options.

Division of Teaching Studies (Principally based at Northern Counties Polytechnic formerly Northern Counties College)

LECTURER II IN DRAMA

(Temporary)
required from 1st April 1977, to 31st August, 1978, to help in the contribution to Drama in degree level courses, particularly in leading to the C.N.A.A. and BEd (Hons) degrees. The successful candidate will be expected to contribute to the general teaching of Drama and to be persons with proven practical skills in drama.

Burnham FE Senior Lectr
£5,031-£5,955 (bar)-£8,411
Lecturer II, £3,279-£5,483
plus £312 p.a. salary supplement

RESEARCH ASSISTANTS

(£2,440-£2,800, plus £312 p.a. salary supplement)

Department of Economics

required to engage in research into the viability of some of the projects which are being undertaken in the School of Economics. The successful candidate will be expected to be competent in the use of quantitative techniques.

Department of Administrative and Management Studies

required in the Division of Government and Public Administration which is developing policy analysis studies in Central and Local Government. The successful candidate will be expected to be competent in the use of quantitative techniques.

For further particulars and application forms, please apply to the Staffing Officer, Newcastle upon Tyne Polytechnic, Silson Place, Newcastle upon Tyne NE1 8BT.

ULSTER COLLEGE THE NORTHERN IRELAND POLYTECHNIC

Faculty of Social and Health Sciences

PRINCIPAL LECTURER IN SOCIAL INVESTIGATION

Salary Scale £5,940 to £6,647/£7,578 plus £312 supplement

Applicants should hold an honours degree in one of the social sciences and have had extensive teaching and research experience.

The post will involve both teaching and research in the disciplinary areas of the social sciences, supervision of Honours projects and Postgraduate students reading for higher degrees, contributions to taught postgraduate programmes in social and behavioural research and teaching and research in the field of medical sociology.

The Polytechnic is a direct grant institution with an independent Board of Governors. It opened in 1971 and now has a student population of some 8,100. It has extensive residential places on the 114-acre campus overlooking the sea at Jordanstown, a pleasant and quiet residential area. There is a scheme of assistance with removal costs.

Further particulars and application forms will be returned by December 20 may be obtained by writing to: The Establishment Officer, Ulster College, The Northern Ireland Polytechnic, Jordanstown, Newcastle, Co. Antrim BT37 0QB.

City of Birmingham Polytechnic

DEPARTMENT OF LAW

Applications are invited for the post of

HEAD OF DEPARTMENT (GRADE V)

£7,395-£8,271 + £312
supplement or appropriate proportion.

Further details and application forms (to be returned by 20th December, 1976) from The Personnel Officer, City of Birmingham Polytechnic (THEB), Room 9.310, Barr, Birmingham B42 2BU.

Polytechnics continued

The Polytechnic of North London

Faculty of Economic and Administrative Studies

Head of Department of Business Studies (Grade V)

To lead a Department with over 25 full time and part time students in Business Studies, Marketing, Finance, Economics, and Management Studies. The Department is currently developing links with industry and commerce and is seeking a Head of Department who will make a major contribution to the Faculty and the Business Studies degree, will give leadership in the development of the Department and will be a member of the faculty Economics subject group and may be asked to contribute to degree courses outside the department.

Applicants should have a strong academic qualification, preferably including a higher degree in Economics, with a minimum of five years' teaching experience up to final year degree level, and have experience in research and/or have had recent practical experience in an appropriate area. They would normally have experience in course development, for example C.N.A.A. degree courses.

Principal Lecturer in Economics (Department of Business Studies)

The Department has over 400 full-time students. The Principal Lecturer in Economics should have a strong academic qualification, preferably including a higher degree in Economics, with a minimum of five years' teaching experience up to final year degree level, and have experience in research and/or have had recent practical experience in an appropriate area. They would normally have experience in course development, for example C.N.A.A. degree courses.

Principal Lecturer in Business Studies (Principal Appointment)

To play a major role in the development of the Department for the Economic and Administrative Studies Faculty, particularly the development of a new faculty-based BA Business Studies degree. The person appointed will be responsible for the working in any area of Business Studies and will continue teaching in the subject as appropriate. In the role of the Principal Lecturer in Business Studies, the person appointed will be expected to develop research and related activities in the Department and faculty.

Principal Lecturer in Accounting (Department of Accounting and Administrative Studies)

The Department has over 400 full-time students. The Principal Lecturer in Accounting should have a strong academic qualification, preferably including a higher degree in Accounting, with a minimum of five years' teaching experience up to final year degree level, and have experience in research and/or have had recent practical experience in an appropriate area. They would normally have experience in course development, for example C.N.A.A. degree courses.

Lecturer (Grade II) in Quantitative Business Methods (Department of Business Studies)

To teach all aspects of quantitative methods to students on Business Studies courses up to HND level. The successful candidate will be expected to be competent in the use of quantitative techniques.

Salary Scales:

Head of Department (Grade V): £7,395-£8,271 plus £312 supplement and 202 London Allowance.
Principal Lecturer: £5,940-£6,647 (bar)-£7,578 plus £312 supplement and 202 London Allowance.
Lecturer (Grade II): £2,778-£3,483 plus £312 supplement and 202 London Allowance.

Staff at the top of the Lecturer (Grade II) scale can expect progression to the Senior Lecturer scale subject to satisfactory performance.

Application forms and further particulars (please state post in which interested) from the Establishment Officer, The Polytechnic of North London, Holloway Road, N7 8JH.

Closing date for applications: 10th January, 1977.

Queen Margaret College EDINBURGH

A SCOTTISH CENTRAL INSTITUTION

Applications are invited for appointment to the following post:

LECTURER IN LINGUISTICS

Honours graduate with qualifications in Linguistics and Phonetics required to make major contribution to courses in speech therapy.

LECTURER IN VOICE AND SPEECH

Candidates must be experienced in the dramatic art; a major contribution to courses in drama is required.

LECTURER IN SOCIAL WORK

Candidates must be qualified and experienced in social work, with particular reference to residential work.

LECTURER IN LEGAL STUDIES

Graduate with expertise/interest in the LAS relating to the consumer is required.

Queen Margaret College, founded in 1875, is a Scottish central institution offering courses at degree and diploma level. The curriculum of the college includes full-time courses in dietetics, health studies, home economics, institutional management, nursing, physiotherapy, social work and speech therapy.

Salary Scale: £3,528 to £6,324 (Bar)-£8,807
Application forms and further particulars from The Secretary, Queen Margaret College, 36 Clevedon Terrace, Edinburgh EH2 1ES. Telephone 01-334 8111.

CITY OF BIRMINGHAM THE POLYTECHNIC

DEPARTMENT OF LAW

PRINCIPAL LECTURER IN
LEGAL STUDIES

required to lead a Department with over 25 full time and part time students in Business Studies, Marketing, Finance, Economics, and Management Studies. The Department is currently developing links with industry and commerce and is seeking a Head of Department who will make a major contribution to the Faculty and the Business Studies degree, will give leadership in the development of the Department and will be a member of the faculty Economics subject group and may be asked to contribute to degree courses outside the department.

Principal Lecturer in Economics (Department of Business Studies)

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Principal Lecturer in Business Studies (Principal Appointment)

To play a major role in the development of the Department for the Economic and Administrative Studies Faculty, particularly the development of a new faculty-based BA Business Studies degree. The person appointed will be responsible for the working in any area of Business Studies and will continue teaching in the subject as appropriate. In the role of the Principal Lecturer in Business Studies, the person appointed will be expected to develop research and related activities in the Department and faculty.

Principal Lecturer in Accounting (Department of Accounting and Administrative Studies)

The Department has over 400 full-time students. The Principal Lecturer in Accounting should have a strong academic qualification, preferably including a higher degree in Accounting, with a minimum of five years' teaching experience up to final year degree level, and have experience in research and/or have had recent practical experience in an appropriate area. They would normally have experience in course development, for example C.N.A.A. degree courses.

Lecturer (Grade II) in Quantitative Business Methods (Department of Business Studies)

To teach all aspects of quantitative methods to students on Business Studies courses up to HND level. The successful candidate will be expected to be competent in the use of quantitative techniques.

For further particulars and application forms, please apply to the Staffing Officer, Newcastle upon Tyne Polytechnic, Silson Place, Newcastle upon Tyne NE1 8BT.

Faculty of Business

Lecturer II/ Senior Lecturer in Law

The Department of Law seeks an additional member to assist in developing the wide range of teaching, research and community interests of the present staff. Courses include a B.A. (Honours) degree in Law (C.N.A.A.). (Ref. S/AO.285)

Salary scales: Senior Lecturer £5,031-£5,417
Lecturer II £3,279-£5,483
(Plus £312 supplement and appropriate London Allowance)

Further details and application form from:
Academic Staffing Office (2)
North East London Polytechnic
Forest Road, London E15 4JB
Tel: 01-527 2272, Ext. 157

Closing date for completed applications: 23rd December, 1976.

NEELP North East London Polytechnic

DUNDEE COLLEGE OF TECHNOLOGY

Department of Accountancy & Economics
LECTURESHIP IN ACCOUNTANCY

Applicants should be honours graduates or hold appropriate equivalent professional qualifications. They should have substantial practical or research experience and/or have substantial experience of teaching at undergraduate or postgraduate level. The post is intended to contribute to the general teaching of Accounting and to a specialist field, preferably in financial or computer augmented accounting.

Department of Business Studies
LECTURESHIP IN BUSINESS STUDIES

Applicants must have appropriate teaching and industrial/research experience and be able to contribute to the teaching and development of one or more of: Corporate Planning and Strategy, Manufacturing Management, Marketing and Distribution, Finance and Practice.

Salary Scale: For both posts, the salary is on the scale of £3,028-£5,507, with initial placement dependent upon prior approved experience. Financial assistance towards the cost of removal expenses may be payable.

Further particulars and application forms obtainable from the Principal, Dundee College of Technology, Bell Street, Dundee DD1 1HG, to whom completed application forms should be returned not later than 25th December, 1976.

LONDON THE POLYTECHNIC OF NORTH LONDON

FACULTY OF HUMANITIES
DEPARTMENT OF LINGUISTICS
AND
LECTURER (Grade II) IN
ENGLISH

Applicants are invited from the Faculty of Humanities to contribute to the Faculty subject group. The successful candidate will be expected to be competent in the use of quantitative techniques.

For further particulars and application forms, please apply to the Staffing Officer, Newcastle upon Tyne Polytechnic, Silson Place, Newcastle upon Tyne NE1 8BT.

SUNDERLAND THE POLYTECHNIC FACULTY OF SCIENCE

DEPARTMENT OF MATHEMATICS
AND
PHYSICAL SCIENCES
LECTURER (Grade II) IN
MATHEMATICS

It is intended to appoint a person with considerable experience in carrying out research in the application of mathematics to the solution of engineering, scientific and industrial problems. The successful candidate will be expected to be competent in the use of quantitative techniques.

For further particulars and application forms, please apply to the Staffing Officer, Newcastle upon Tyne Polytechnic, Silson Place, Newcastle upon Tyne NE1 8BT.

LONDON THE POLYTECHNIC OF NORTH LONDON

TEMPORARY PART-TIME
LECTURESHIP IN ACCOUNTANCY

Applicants are invited for a temporary part-time Lectureship in Accountancy from January to May 1977. The successful candidate will be expected to be competent in the use of quantitative techniques.

THE POLYTECHNIC OF NORTH LONDON

DEPARTMENT OF LAW
PRINCIPAL LECTURER IN
LEGAL STUDIES

required to lead a Department with over 25 full time and part time students in Business Studies, Marketing, Finance, Economics, and Management Studies. The Department is currently developing links with industry and commerce and is seeking a Head of Department who will make a major contribution to the Faculty and the Business Studies degree, will give leadership in the development of the Department and will be a member of the faculty Economics subject group and may be asked to contribute to degree courses outside the department.

Principal Lecturer in Economics (Department of Business Studies)

The Department has over 400 full-time students. The Principal Lecturer in Economics should have a strong academic qualification, preferably including a higher degree in Economics, with a minimum of five years' teaching experience up to final year degree level, and have experience in research and/or have had recent practical experience in an appropriate area. They would normally have experience in course development, for example C.N.A.A. degree courses.

Principal Lecturer in Business Studies (Principal Appointment)

To play a major role in the development of the Department for the Economic and Administrative Studies Faculty, particularly the development of a new faculty-based BA Business Studies degree. The person appointed will be responsible for the working in any area of Business Studies and will continue teaching in the subject as appropriate. In the role of the Principal Lecturer in Business Studies, the person appointed will be expected to develop research and related activities in the Department and faculty.

Principal Lecturer in Accounting (Department of Accounting and Administrative Studies)

The Department has over 400 full-time students. The Principal Lecturer in Accounting should have a strong academic qualification, preferably including a higher degree in Accounting, with a minimum of five years' teaching experience up to final year degree level, and have experience in research and/or have had recent practical experience in an appropriate area. They would normally have experience in course development, for example C.N.A.A. degree courses.

Lecturer (Grade II) in Quantitative Business Methods (Department of Business Studies)

To teach all aspects of quantitative methods to students on Business Studies courses up to HND level. The successful candidate will be expected to be competent in the use of quantitative techniques.

For further particulars and application forms, please apply to the Staffing Officer, Newcastle upon Tyne Polytechnic, Silson Place, Newcastle upon Tyne NE1 8BT.

NOTTINGHAM THE POLYTECHNIC

DEPARTMENT OF ELECTRONIC ENGINEERING
LECTURER II/SENIOR
LECTURER IN ELECTRONIC ENGINEERING

Applicants should be graduates or hold appropriate equivalent professional qualifications. They should have substantial practical or research experience and/or have substantial experience of teaching at undergraduate or postgraduate level. The post is intended to contribute to the general teaching of Electronics and to a specialist field, preferably in financial or computer augmented accounting.

Further particulars and application forms obtainable from the Principal, Dundee College of Technology, Bell Street, Dundee DD1 1HG, to whom completed application forms should be returned not later than 25th December, 1976.

KENT

CHURCHILL COLLEGE
Canterbury

Applicants are invited for a temporary part-time Lectureship in Accountancy from January to May 1977. The successful candidate will be expected to be competent in the use of quantitative techniques.

Principal Lecturer in Economics (Department of Business Studies)

The Department has over 400 full-time students. The Principal Lecturer in Economics should have a strong academic qualification, preferably including a higher degree in Economics, with a minimum of five years' teaching experience up to final year degree level, and have experience in research and/or have had recent practical experience in an appropriate area. They would normally have experience in course development, for example C.N.A.A. degree courses.

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Principal Lecturer: £5,940-£6,647 (bar)-£7,578 plus £312 supplement and 202 London Allowance.
Lecturer (Grade II): £2,778-£3,483 plus £312 supplement and 202 London Allowance.

Staff at the top of the Lecturer (Grade II) scale can expect progression to the Senior Lecturer scale subject to satisfactory performance.

Application forms and further particulars (please state post in which interested) from the Establishment Officer, The Polytechnic of North London, Holloway Road, N7 8JH.

Closing date for applications: 10th January, 1977.

LIVERPOOL THE CITY OF LIVERPOOL HIGHER EDUCATION

LECTURER II/SENIOR
LECTURER IN INTERNATIONAL
RESEARCH

Applicants should be graduates or hold appropriate equivalent professional qualifications. They should have substantial practical or research experience and/or have substantial experience of teaching at undergraduate or postgraduate level. The post is intended to contribute to the general teaching of International Research and to a specialist field, preferably in financial or computer augmented accounting.

Principal Lecturer in Economics (Department of Business Studies)

The Department has over 400 full-time students. The Principal Lecturer in Economics should have a strong academic qualification, preferably including a higher degree in Economics, with a minimum of five years' teaching experience up to final year degree level, and have experience in research and/or have had recent practical experience in an appropriate area. They would normally have experience in course development, for example C.N.A.A. degree courses.

Principal Lecturer in Business Studies (Principal Appointment)

To play a major role in the development of the Department for the Economic and Administrative Studies Faculty, particularly the development of a new faculty-based BA Business Studies degree. The person appointed will be responsible for the working in any area of Business Studies and will continue teaching in the subject as appropriate. In the role of the Principal Lecturer in Business Studies, the person appointed will be expected to develop research and related activities in the Department and faculty.

Principal Lecturer in Accounting (Department of Accounting and Administrative Studies)

The Department has over 400 full-time students. The Principal Lecturer in Accounting should have a strong academic qualification, preferably including a higher degree in Accounting, with a minimum of five years' teaching experience up to final year degree level, and have experience in research and/or have had recent practical experience in an appropriate area. They would normally have experience in course development, for example C.N.A.A. degree courses.

Lecturer (Grade II) in Quantitative Business Methods (Department of Business Studies)

To teach all aspects of quantitative methods to students on Business Studies courses up to HND level. The successful candidate will be expected to be competent in the use of quantitative techniques.

Salary Scales:

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Race and spatial reasoning

of engineering, and may be confined to those who, within generally selective and traditionally oriented education systems, have concentrated upon the more theoretical scientific subjects.

Their impact upon cognitive operations involving drawings is the other hand well documented (for a review see chapter four *Illusion and Culture* by J. B. D.

such perceptual difficulties involving the "real" world, in which consistent misperception of spatial cues would lead to dire consequences.

history was what actually continued in being in the English universities and subsequently George III's ideas can have had little significance.
Yours faithfully,

liberal value which can only enrich them at whatever level they are taught.

Yours faithfully,
L. G. TURTON.

Department of English and foreign
languages,
City of Birmingham Polytechnic.

General Vacancies continued

HM INSPECTORS OF SCHOOLS

Applicants should have a good honours degree in sociology or the social sciences, or qualifications and experience equivalent to that of a first class honours degree in sociology or the social sciences. Applicants should have a degree in sociology or the social sciences, or qualifications and experience equivalent to that of a first class honours degree in sociology or the social sciences. Applicants should have a degree in sociology or the social sciences, or qualifications and experience equivalent to that of a first class honours degree in sociology or the social sciences.

DEPARTMENT OF EDUCATION AND SCIENCE

CHIEF AGRICULTURAL ECONOMIST

Further information is obtainable from the Civil Service Commission, Resepark House, Upper Newtownards Road, Belfast BT4 3ND (Telephone Dundonald 4585, ext. 305). Please quote reference PSR 176/76/TNCS.

Modern languages

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Registrar and Clerk to the Governors, Further Education
Staff College, c/o E. W. Mead, Education Department,
County Hall, TAUNTON, Somerset TA1 4DY.

Overseas

**QUEENSLAND INSTITUTE OF
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SENIOR LECTURER/LECTURER
IN LIBRARY STUDIES**

Applications for the above positions within the Australian Library Association are invited from professionally qualified graduates eligible for Associate Membership of the Library Association of Australia. Applicants should have good academic and professional qualifications and suitable experience in teaching, research, and practice. It is hoped that the successful candidate will be able to take up duty in the above position in 1977. In preparation for the Spring 1977 General Conference in July, 1977.

expertise may be in any of the following areas, but persons offering other subject fields will not be excluded from consideration: Development of Print and Non-Print Collections and Basic Reference Tools; Basic Media Creativity (i.e. the teaching of basic production skills in the areas of graphics, photography, film-making and sound recording); Literature for Children, for Young People and Young People (including subject resource centres); Resources and Bibliography in the Fields of Humanities or the Social Sciences; Automated Systems (including information storage and retrieval as well as purely housekeeping systems); Systems Analysis.

SALARY SCALES:
Depending on the qualifications and experience of the successful applicant, an appointment will be made within the appropriate range:
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Lecturer I:	\$A13,933-\$A17,427 p.a.
Lecturer II:	\$A11,151-\$A14,345 p.a.

Further information may be obtained from The Personnel Officer,
Queensland Institute of Technology, P.O. Box 246, North Quay, 4000,
Brisbane, Australia.

Applications, quoting reference number V125/76, date of birth, marital status, qualifications, experience, present employment, together with the names and addresses of two referees should reach the Personnel Officer (address above) by Friday, 16th January, 1977.

Overseas continued

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